

**DEPARTMENT OF DEFENSE APPROPRIATIONS FOR
FISCAL YEAR 1986**

HEARINGS
BEFORE A
SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE
NINETY-NINTH CONGRESS

FIRST SESSION

ON

H.R. 3629

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF DEFENSE FOR THE
FISCAL YEAR ENDING SEPTEMBER 30, 1986, AND FOR OTHER PURPOSES

PART 1—BUDGET OVERVIEW
(Pages 1-621)

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CONTENTS

THURSDAY, FEBRUARY 21, 1985

	Page
Department of the Air Force: Overview of Air Force budget request	1
Chief of Staff, U.S. Air Force	1

TUESDAY, MARCH 5, 1985

Department of the Army: Overview of Army budget request	65
Chief of Staff, U.S. Army	65

THURSDAY, MARCH 7, 1985

Department of the Navy: Overview of Navy budget request	161
Marine Corps	245

TUESDAY, MARCH 26, 1985

Under Secretary of Defense for Research and Engineering: Overview of research, development, and acquisition activities	395
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TUESDAY, JUNE 25, 1985

Secretary of Defense: Fiscal year 1986 budget review	521
Joint Chiefs of Staff	556

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1986

THURSDAY, FEBRUARY 21, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:06 p.m., in room SD-138, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Rudman, Kasten, Johnston, and Sasser.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE AIR FORCE

STATEMENTS OF:

HON. VERNE ORR, SECRETARY OF THE AIR FORCE

GEN. CHARLES A. GABRIEL, CHIEF OF STAFF, U.S. AIR FORCE

OVERVIEW OF AIR FORCE BUDGET REQUEST

OPENING STATEMENT OF SENATOR STEVENS

Senator STEVENS. Good afternoon, gentlemen. I am sorry to be late. The meeting that we are having on the budget, or I should say the ongoing and continuing meeting on the budget, has delayed us.

This is the time scheduled for a hearing on the Air Force budget estimates for the fiscal year 1986. They total \$107.1 billion for programs covered by the Defense Appropriation bill. This is an increase of \$10.4 billion over appropriations to date for the current fiscal year.

Overall, taking in military construction items not funded in this bill, the Air Force is seeking somewhere between 5 and 6 percent real growth—depending on how we decide to count the \$1.5 billion that is still awaiting congressional approval for the MX missile.

Some areas of the Air Force budget, however, experience much higher growth rates. I am talking in particular about the missile procurement, research and development, military construction, and reserve component accounts.

AIR FORCE COMPARATIVE STATEMENT OF BUDGET AUTHORITY

For the record, once again, we would like to have the Air Force submit a comparative statement of budget authority by appropriation account for fiscal year 1984 through 1986. This display should

include real growth calculations based on the latest economic indicators.

In addition, we ask that the Air Force submit a statement of unobligated balances by account for the latest complete quarter and estimated for the end of fiscal year 1985.

[The information follows:]

COMPARATIVE STATEMENT OF BUDGET AUTHORITY

Statement of Budget Authority with real growth calculations:

Appropriation (TY\$)	Fiscal year—			
	1984	1985	1986	1985-86 RG percent
Military personnel ¹	18,563	19,618	20,806	+1
Operation and maintenance	20,369	21,924	23,662	+7
Procurement	36,092	41,815	46,566	+6
RDT&E	12,258	13,506	15,579	+11
Military construction	1,610	1,752	2,286	+25
Family housing	805	886	929	+1
Stock fund	1,289	549	465	-19
Trust/receipts	-134	-136	-194	
Total	90,852	99,914	110,089	+5

¹ Includes retired pay accrual (FY 1984 was first year for services).

Statement of Unobligated Balances:

Account	Unobligated balances as of 1st quarter fiscal year 1985	Anticipated yearend unobligated balances
Military personnel, AF	13,433,548	0
Military personnel, AFR	442,953	0
Military personnel, ANG	673,341	0
Operation and maintenance, AF	14,479,828	0
Operation and maintenance, AFR	573,128	0
Operation and maintenance, ANG	1,325,059	0
Aircraft procurement	25,064,310	9,145,348
Missile procurement	8,011,985	2,755,747
Other procurement	9,293,840	2,584,100
RDT&E	13,940,085	867,399
Military construction, AF	2,632,269	1,171,463
Military construction, AFR	78,094	22,156
Military construction, ANG	216,570	113,856
Family housing, Ops and debt	564,217	0
Family housing, Construction	279,149	116,979
Def production guarantees	1,804	1,804
Stock fund	8,490,777	0
Industrial fund	4,859,690	247,409
All other	64,250	5,346

APPROPRIATIONS COMMITTEE COMPARATIVE STATEMENT OF BUDGET AUTHORITY

Senator STEVENS. Further, since this is our opening hearing, we will also include in the record at this point the committee's own comparative statement of budget authority for the defense activities included in the Defense appropriation bill, together with a sep-

arate statement prepared by the Department displaying budget authority and outlays by account for fiscal years 1985 and 1986.

[The information follows:]

BUDGET AUTHORITY AND OUTLAYS BY ACCOUNT

	Budget authority		Outlays	
	Fiscal year 1985	Fiscal year 1986	Fiscal year 1985	Fiscal year 1986
Military personnel, AF	18,142.7	19,187.9	18,113.5	19,099.6
Reserve personnel, AF	582.9	622.5	551.2	598.4
National Guard personnel, AF	892.3	995.1	871.6	978.8
Operation and maintenance, AF	19,213.5	20,924.4	18,593.3	20,154.5
Operation and maintenance, AFR	881.3	907.7	865.1	877.7
Operation and maintenance, ANG	1,828.8	1,830.1	1,906.8	1,800.6
Aircraft procurement, AF	26,078.1	26,165.5	15,318.1	18,322.6
Missile procurement, AF	6,888.3	10,862.7	5,828.3	7,593.2
Other procurement, AF	8,848.1	9,538.0	6,840.1	7,868.7
RDT&E, AF	13,506.3	15,578.5	12,215.0	14,076.3
AF stock fund	548.6	464.9	291.3	369.4

INTRODUCTION OF DEPARTMENT WITNESSES

Senator STEVENS. Mr. Secretary, it is nice to see you here, and General Gabriel, we again welcome you before the committee. Your prepared statements will be printed in full in the record. We would ask you to highlight your budget initiatives. I want to emphasize the importance of that unobligated balance by account.

As we are looking at the budget progress, it appears that to a certain extent, the expenditure of unobligated balances may drive the deficit in 1986 and 1987 and 1988 much more than people have realized previously. So we are being asked for specifics in this area, and we hope that you will cooperate with us by giving us those as soon as possible.

Senator Rudman.

Senator RUDMAN. Mr. Chairman, thank you. I have no statement. I would like to join you for our hearings and hope that they will be meaningful for reaching some conclusions this year, conclusions which I think are inevitable.

Senator STEVENS. Thank you.

Gentlemen.

SUCCESS IN PERSONNEL PROGRAMS

Secretary ORR. Thank you, Mr. Chairman. We will be brief because the important part of this hearing is for your questions and our answers.

I would like to thank you, Mr. Chairman, and the committee for the courtesy with which you have always received us. I would like to mention in very brief terms four items.

MILITARY PERSONNEL AND THEIR CONCERNS

One concern is people, and right now we are doing quite well. Our enlisted force is 99 percent high school graduates. Our retention rate of first term eligibles is 62 percent. That is down from 66

percent last year and indicates a slight drop, but not enough yet to hit the panic button.

We were disturbed in the first quarter of this fiscal year when as many Military Airlift Command pilots elected to withdraw from the service as had all of last fiscal year. That appears to have abated a little in the second quarter, so it doesn't appear to be a continuing trend; nevertheless, it concerns us.

At every base I go to—I try to go to nearly one a week—the number one question is “what about retirement?” It is something that is very, very much on our people's minds.

We were heartened in an earlier hearing when one of the members said that he had not heard anyone in Congress talk about changing the retirement for people already in the service.

It is surprising, the nervousness of people, even those who have reached the grade of master sergeant, feel that somehow their retirement is going to be taken away from them before they have a chance to use it.

RELIABILITY AND MAINTAINABILITY

The second thing I would like to touch on is reliability and maintainability. General Gabriel and I are making strenuous efforts to improve both reliability and maintainability.

I flew in an F-4 over the weekend. Many years ago we placed the high frequency radio in that airplane under the rear seat, which was otherwise unused space. It looked like a good place to put it.

However, we have discovered the radio does not have a very high reliability rate. It has to be removed about every second sortie, and that means bringing an explosives expert out to take the explosive charge out of the seat, then remove the seat, repair the radio, and reverse the procedure. If it had been known at the time that it was that unreliable, it should have been put in a more maintainable place.

Obviously, that was not known 25 years ago, but we are making efforts to improve both reliability and maintainability which will ultimately bring about big savings in manpower. We have written to over 40 major contractors about it, and are also placing reliability and maintainability very high on our source selection authority so that it will be up there with other things we consider.

SPARE PARTS

We are continuing, as a third item, to work on spare parts. We have made more than 100 awards to our people who have brought excessive prices of spare parts to our attention. Those awards have been made either by me or one of my Assistant Secretaries.

In all instances where we can, we give the awards in an auditorium full of people so that everyone on that particular installation knows that this is something to be desired. You don't call a person a whistleblower simply because he or she is trying hard to help us improve our acquisition of parts. We have increased competition and we are buying in proper quantities.

OVERSPECIFICATION PROBLEM

Finally, General Gabriel and I are working on overspecification. Sometimes what has been criticized as an excessive price for a spare part comes about not because the manufacturer may have excessively charged us for what he built, but we may have been asking for too much. We may have overspecified.

An example of that is the \$7,000 coffeepot, which is an item that commercial airlines pay only \$3,200 for. It is definitely not a "Mr. Coffee" like you use in the kitchen, but neither is there a reason why 20 years ago we should have needed something more extensive than United Airlines or American Airlines needs. In the C-5B, we are buying the commercial version.

We are working very hard to make sure we do not overspecify. We are working against human nature. I think that all of us are a little guilty of overspecification—for example when we buy a stereo that has more true tone than the ear can even accommodate to. We try to get more pollutants out of the air than are noticeable, and may pay as much to get the last 2 percent out as the first 98 percent. Nevertheless, we have been guilty in the past, and may still be guilty of overspecification. But General Gabriel and I are working very hard on it.

Last, I would like to assure you that we don't think we are miracle workers. I think everyone who sat in my particular job and those who have sat in General Gabriel's in the past, worked equally hard on these problems. I only mention it to assure you that we are aware of them, and we are giving every energy we can to correct them.

Thank you, Mr. Chairman.

Senator STEVENS. Thank you, Mr. Secretary.

[The prepared statement of Secretary Orr and General Gabriel follows:]

JOINT PREPARED STATEMENT

HON. VERNE ORR, SECRETARY OF THE AIR FORCE
 GEN. CHARLES A. GABRIEL, CHIEF OF STAFF, U.S. AIR FORCE

We are making good progress on a well-conceived program to return our defenses to a level of strength sufficient to counter a growing global threat. Congress and the American people have been supportive of Air Force initiatives to rebuild our forces and improve the quality of life of our people to ensure peace through strength. Rebuilding that strength is the only prudent way to deter the Soviets while encouraging meaningful arms reduction negotiations.

PRIORITIES. Our first priority remains to counter the Soviet nuclear force buildup by ensuring that deterrence remains strong. At the same time, we must prepare our conventional forces to meet a global threat. We, therefore, have increased emphasis on fielding weapon systems to respond at all levels of conflict--strategic nuclear, tactical nuclear, conventional warfare, or special operations--to include terrorism (efforts focusing primarily on improving our capability to protect our people and bases and to increase our sensitivity to this threat).

But systems and capabilities alone can't get the job done. Consequently, our overall commitment must always be to our people. This year we continue to emphasize the priorities we believe will address the improvements most vital to our combat capability.

- Modernize strategic forces (offensive and defensive)
- Improve readiness and sustainability of general purpose forces
- Increase airlift capability
- Modernize and expand tactical forces.

Furthermore, our nation's growing civilian and military reliance on space-based systems, coupled with the Soviet potential to disrupt these systems, requires that we meet the challenges and opportunities space presents.

BUDGET. These priorities guide the Air Force in constructing a balanced program that ensures quality people and quality forces to provide a credible deterrent through increasingly effective strategic, conventional, and special operations forces to meet global commitments. This budget is, in our view, the minimum necessary to counter potential threats to our national security.

For Fiscal Year 1986, the Air Force requests \$110.3B to provide the required quality people and forces. The size of the Defense Department budget has grown during the last four years but this year still amounts to only 6.6 percent of the gross national product.

OUR PEOPLE. FY 84 was another banner recruiting year. Ninety-nine percent of our new recruits had high school diplomas compared to 83 percent in FY 79. Another indication of the quality of our new enlisted people is that on the average they can read at the 11th grade level, compared with a 9th grade national average. Officer recruitment also reflects high quality.

We must not take our people for granted and allow their pay and benefits to lag behind their private sector counterparts. For example, although first-term reenlistment of eligibles is at 62 percent compared to 36 percent in FY 80, it was 66 percent only a year ago. In the officer corps, this trend is of particular concern in the retention of pilots. For example, in the Military Airlift Command (MAC), the percentage of pilots we expected to stay in through their eleventh year dropped from 79 percent in FY 83 to 66 percent in FY 84. Despite the four percent basic pay raise this year, together with several allowance increases, military pay remains 9.6 percent behind comparable private sector pay as measured by the Employment Cost Index (ECI).

We should not attack the retirement system that has long served us well in retaining quality people; we should not attack benefits like commissaries and exchanges that make a difficult life more bearable.

We should not expect military people to absorb inordinate moving expenses out of their own pockets. Our people still have to pay between \$1,500 and \$3,000 out of their own funds to cover expenses on an average move. Weight allowances are inadequate to compensate Air Force people for moving household goods from station to station, and this budget requests an incremental increase. Recent weight allowance increases for all federal civilian workers leave the

military--who move more often--as the only group where this problem has not been addressed.

This year we plan to place more emphasis on these quality of life issues, such as increasing weight allowances, providing junior enlisted members travel entitlements, and providing a temporary lodging expense allowance. The important issues of the potential IRS ruling on homeowners' mortgage interest deductions for income taxes, protecting the value of our retirement system, and providing dependent dental care will also receive increased emphasis.

We program Air Force active military manpower to grow by 9,400 people in FY 86. We need these people to man properly an expanded and modernized force structure--such as the B-1B, tactical force increases, the C-5B, the Ground-Launched Cruise Missile (GLCM), Precision Location Strike System (PLSS), and improvements in medical readiness in Europe. Unfortunately, to accommodate a congressionally mandated troop strength ceiling, in FY 86 alone, the US Commander in Chief, Europe, will be forced to reduce more than 3,400 military authorizations from the Air Force program in Europe.

Our Air National Guard, Air Force Reserve, and Air Force civilians contribute substantially to our tactical, airlift, and strategic force structure. And with the addition of new missions, we will depend on them even more in the coming year. For example, in FY 86 our Air Reserve Forces will grow by 5,740 positions. In the past five years Air Reserve Forces have grown 14 percent, compared to growth in the active force of 5.6 percent.

MANAGING RESOURCES. Over the last two years the Air Force has reevaluated its entire system of pricing and buying spare parts and support equipment. Although some "horror stories" have appeared about overpriced items, almost all were unearthed by the Air Force in its ongoing--and successful--effort to bring these aberrations to light and correct them. Through the Zero Overpricing Program, Air Force people are highlighting suspicious prices and pointing them out to management.

Another way we are trying to get more for each tax dollar is through increased competition. Always a part of the development phase of major systems, we must increase the focus on continuing competition during the full acquisition cycle. Last year we added a substantial number of people to our Competition Advocate offices to help "break out" items from contracts and to increase competition and we are pursuing plans to increase competition for all acquisition programs.

In FY 84 only 16 percent of our acquisition dollars were awarded non-competitively, while we awarded 84 percent competitively, either directly or through "follow-on" contracts--contracts that were originally competed, like the F-16. We also have set aside nearly three billion dollars in FY 86--requested funds for items traditionally bought from a single source that we intend to buy from multiple sources (Alternate Fighter Engine (AFE), cruise missile engine, F-16 canopy transparency are examples).

Increasing our efforts to stress reliable and maintainable systems, we save money in the design, production, operation and support, and acceptance stages. More reliable systems like the C-17 promise to reduce life-cycle costs, require fewer spares and less manpower, and result in higher sortie rates. Along with the traditional acquisition criteria--cost, schedule, and performance--we are making supportability (reliability and maintainability) a key factor throughout the research, development, and acquisition cycle. We are also weighing both sides of the disposal question and will ensure that we don't encourage premature disposal of items.

Working hard to meet the needs of the commanders and to increase our joint warfighting capability, we are expanding joint exercises and inter-service cooperation to produce the most cost-effective forces possible. Last May the Chiefs of Staff of the Army and Air Force signed a Memorandum of Agreement on Joint Force Development that identified 31 initiatives that seek to improve inter-service cooperation and provide the most affordable and effective conventional air-land combat capability. We have made real progress in implementing these initiatives.

We are working with the Navy in the areas of combat identification friend or foe and munitions research, development, test, and evaluation. Further, we are exercising more and more with the fleet to enhance the Total Force capability to conduct maritime operations in defense of the sea lanes of communication, through anti-air warfare, anti-submarine warfare, and anti-surface warfare. To further improve joint training opportunities we are coordinating with the Navy on joint operation of training ranges, including the Navy's effort to establish a mobile sea range.

STRATEGIC MODERNIZATION. Last year, we made considerable progress toward redressing the serious strategic nuclear imbalance. But the most important element of the President's comprehensive Strategic Modernization Program is now in jeopardy because of the uncertainties created by congressional actions on our planned FY 85 Peacekeeper procurement. Peacekeeper will counter the Soviet superiority in prompt counter military capability and deter by taking their silo-based weapons out of the virtual sanctuary they presently enjoy. Consequently, if our national commitment to Peacekeeper is strong, the Soviets may be willing to consider meaningful cuts in these most destabilizing silo systems. In our view, lack of support for Peacekeeper sends the wrong message to both adversaries and friends regarding our commitment to deterrence.

The small ICBM program is on solid footing. We are in the research phase of this program and have contractors exploring the concept of placing this missile in a nuclear-hardened mobile launcher and deploying it on federal lands. We are also studying the practicality and costs of putting the small ICBM in hardened silos. Also, through the Minuteman III guidance system upgrade program, we have been able to increase Minuteman III effectiveness.

The B-1B, cornerstone of our modernized bomber force, rolled out in September 1984, has started its flight testing program, and is ahead of schedule and within budget. We are requesting funds to procure the final 48 aircraft of our 100 B-1B buy. Our research and development on the Advanced Technology Bomber using low observable technologies continues on schedule with the goal of an early 1990s deployment.

We have now equipped five squadrons of B-52s with Air-Launched Cruise Missiles. We are improving our cruise missiles so they can avoid detection and penetrate increasingly sophisticated Soviet strategic defenses. Offensive avionics system modifications have improved B-52 bombing accuracy by 50 percent and defensive avionics modifications have made it more survivable.

Strategic defense is being improved by modernizing our continental air defense forces, and upgrading both our ballistic missile and atmospheric warning systems for better attack warning and attack assessment. We are also developing, in consonance with the President's Strategic Defense Initiative, several technologies that could provide a comprehensive strategic defense by the turn of the century if future administrations decide to proceed with deploying operational systems.

The President's Strategic Modernization Program is the key to arms control initiatives that seek to reduce nuclear arms, provide a credible deterrent, and promote a stable and peaceful world. Negotiating from a position of strength together with ensuring we have the means for essential verification must form the basis of any meaningful arms negotiations.

READINESS AND SUSTAINABILITY. Some isolated reports this past year have suggested the Air Force is less ready and capable than four years ago. C-ratings, a Joint Chiefs of Staff tool that offers a snapshot of a unit's capability against current goals, are not an accurate measure of capability over time because we intentionally move the goal our forces are measured against by expanding the areas rated and tightening criteria. Also, C-ratings do not reflect dramatic improvements in the effectiveness of modern aircraft and munitions.

To illustrate, four years ago we had about 4,300 fighters in the Total Force--most of them were older F-4s, A-7s, and F-106s. Today we have over 4,600 fighters, most of them modern F-15s, F-16s, and A-10s. Not only have the numbers increased, these new fighters, particularly with improved munitions, are much more effective than those they replaced. Munitions delivery accuracy has increased by 34 percent. In our most recent "shoot out," the winning F-16 set a new competition record, dropping unguided bombs within an average of five feet of the target. Our previous best average was 29 feet. Our air-to-air missile inventory increased four-fold and our preferred air-to-ground munitions--precision guided munitions and cluster bombs--have grown by 15 percent. We are proposing a 47 percent increase in munitions funding in FY 86 to buy Imaging Infrared Mavericks, High Speed Anti-Radiation Missiles, and other new munitions.

Realistic training is a major factor in the readiness equation, and we have increased flying time for our tactical aircrews by 20 percent since 1980. This flying is being done in the most realistic training and exercise environments in the world--like Red Flag, Cope Thunder, Crested Cap, and Checkered Flag deployments. This year we are requesting an additional 92,000 hours for the Total Force, a factor of almost three percent, to continue this increased flying

hour trend.

Although we are flying more and training more realistically and aggressively with all the attendant risks, our safety record has been superb. In 1983, we were able to report 1.73 accidents per 100,000 hours of flying--a new record. In 1984, we maintained a level very near that record--1.77.

Finally, logistics is the linchpin of a ready and sustainable force. As a direct result of increased funding for spares combined with force structure growth, we can now fly 76 percent more tactical fighter combat sorties than four years ago. In this budget we propose to spend \$5B for aircraft spare parts needed for peacetime training and wartime surge. That level of funding provides 100 percent of our FY 86 requirement for both peacetime operating spares, war readiness spares kits, and base level self-sufficiency (WRSK/BLSS) spares, as well as \$240M for other war reserve materiel (OWRM) requirements.

FORCE PROJECTION. No matter how good our equipment or how realistic our training, our combat forces have little deterrent or warfighting value if they can't get to where they are needed in time. Our airlift force can now deploy about 28 percent more combat power than four years ago. With 50 new C-5Bs, a complete buy of 60 KC-10s, and cargo-convertible features on commercial passenger aircraft (Civil Reserve Air Fleet), we will have, by the end of the decade, almost twice the intertheater airlift capability we had in 1930--better, but still significantly less than what we need.

The key to our future force projection capability, the C-17 will be able to operate in both inter- and intratheater roles, will augment the C-130s, and will replace the C-141s as they begin to retire in the 1990s. For the first time we will be able to deliver the full range of Army equipment directly to where it's needed--into the many small and austere airfields currently inaccessible to our long-range airlift force. The C-17 will have significantly increased maintainability and survivability, and will require only about one-third of the C-5 maintenance manhours per flying hour. New CFM56 engines and additional improvements on the KC-135s will increase our air refueling capability by about half. Also, a single KC-10 has the equivalent capability of about three of our current KC-135s, and can carry a substantial amount of cargo.

Another important effort is the joint Army-Air Force initiative to improve Special Operations Forces (SOF). The Air Force will retain the long-range SOF rotary wing mission until a replacement aircraft for the HH-53 is introduced. We are improving our fixed-wing SOF capability by modifying existing HC-130, AC-130, and MC-130E aircraft and by purchasing additional MC-130Hs. We are improving our combat rescue capability by procuring the HH-60A helicopter.

THEATER FORCES. As the Soviets continue to expand and modernize their theater forces, we cannot depend upon our technological advantage to offset entirely their numerical superiority. The Tactical Fighter Roadmap addresses force requirements in terms of both quantity and quality. It prescribes a procurement strategy that will increase the current force of 36 tactical fighter wings to 40 wings while sustaining the force at an acceptable age and modernizing or modifying our existing tactical fighters. Flexibility and capability of our fighters will be increased as we acquire more sophisticated missiles and the Low Altitude Navigation and Targeting Infrared system for Night (LANTIRN). And we are committed to improving our electronic combat, tactical reconnaissance, and command, control, and communications (C³) systems. Finally, our Ground-Launched Cruise Missiles (GLCM) are operational at RAF Greenham Common, United Kingdom, and Comiso, Italy; and will become operational at Florennes, Belgium, in the near future.

SPACE. Space has become essential to successful military operations. The apparent Soviet goal of space superiority and the steps they are taking to achieve it represent a major threat to US and allied security interests. In light of our growing dependence on space systems and the need to provide an operational focus for our military space activities, we are emphasizing programs to make our space systems more survivable and to ensure they can operate in hostile environments. We are working hard to complete the Vandenberg AFB, California, West Coast Shuttle Launch Facility where we plan our first launch next January. Also, DoD has approved a Defense Space Launch Strategy that will permit us to acquire an expendable launch vehicle (ELV) complementary to the Space Shuttle. The Shuttle will remain DoD's primary launch vehicle; however, ELVs will provide a prudent hedge against unforeseen Shuttle problems, give us launch-on-demand flexibility, and let us maintain a space launch industrial base.

To manage our operational, on-orbit assets, we formed and activated Air Force Space Command (SPACECMD) in September 1982. SPACECMD has significantly

improved our ability to command and control our operational space assets and their associated ground-based support elements. Also, this year the President directed DoD to proceed with establishing the new Unified Space Command. The new command will exercise operational responsibility for US military space systems, plan for wartime use of space assets, and be the focal point for military requirements in space.

INSTALLATIONS. Keeping our bases in top shape is a challenge. The need for renovation, repairs, and replacement is continual and cannot be deferred. This year, our Military Construction Program amounts to \$2.29B, and our Military Family Housing Program comes to \$929M. We need to proceed with constructing adequate support facilities at our GLCM main operating bases in Europe. Without schools, housing, and community support facilities, we must send our people to these assignments on short, unaccompanied tours with high training and working costs and reduced readiness--an expensive alternative to the needed facilities.

SUMMARY. In sum, the combat readiness of our forces is higher than ever before, and we are making significant progress toward providing the weapon systems needed to maintain deterrence in the future. The Peacekeeper missile is a critical element of that carefully designed program and will help ensure effective deterrence and provide the necessary foundation for meaningful arms negotiations and reductions. With congressional approval and support from the American people, we will accomplish our important but unfinished work.

CHIEF OF STAFF, U.S. AIR FORCE
BALANCE BETWEEN READINESS AND MODERNIZATION

Senator STEVENS. General.

General GABRIEL. Mr. Chairman, again it is a pleasure being with you.

Let me say that building a strong defense is not easy. It takes commitment, and it takes considerable money. The American people and you in the Congress have given us both. I think that this budget that we have before you represents a well-balanced budget.

By that I mean balanced between readiness and modernization, ready to fight the war today and getting ready to fight the threat in the future.

I would like to talk to you just a little bit about what we have done with the resources, a little about the future, a little about some of my concerns, and then jointness. I think we have increased the spirit of cooperation among the services, which you will see, and finally I will close with a little bit about our people.

COMBAT READINESS

Regarding what we have done with the resources, there has been confusion and misunderstanding. It is all the fault, I am afraid, of a system that we call the combat readiness report, the C-status, which does not give you the whole picture.

It is something that the Chiefs have taken on, and we are going to have to have something that will give you a better measure of our overall combat readiness, our military capability over time. You can't use the C-status to do that. C-status is only a snapshot.

There are four things that must be considered: force structure, modernization, readiness, and sustainability. The C-status covers readiness and a little of sustainability. It does not tell you anything about the size of your force or the quality of your force. It only tells you about its readiness, the war readiness spares kit (WRSK) and the other war reserve materiel. It does not cover the whole picture.

We have changed the goal line about four times over the last 4 years. For example, we took the criteria that we had in 1979, and applied them to 1984 forces. Of 16 TAC squadrons we looked at—including F-111's, A-10's, F-4's, and F-15's—14 squadrons would be green. In other words, they would be C-1; one would be C-2, and one would be C-3. If you use today's forces with the 1984 criteria, you would have only two in the green out of the 16 total instead of 14, and the rest will be C-2, C-3, and C-4.

We have tightened our measures. We do this because it is a good logistics management tool. It is very important to us. We don't want everything to show green all the time because we wouldn't know where to put our attention. Because we've tightened the criteria we have a lot of yellow and red out there to face, and it tells us what we need to improve.

We do owe you a better measure of capability over time. We have tried and we have failed over the last year to come up with a better measure. You can't take the C-status as a base and use it as

a good measure. We are going to do something different so you can measure from one year to the next how well you have done.

IMPROVED CAPABILITY

Let me give you some examples of our improved capability. We are spending five-fold the amount that we spent 4 years ago on munitions, parts and spares. That has made a big difference.

READINESS

Everyplace you go now, the F-15 is showing 80 and 90 percent operational ready rates. Even the F-4's in Korea, I was just over in Korea, have operational ready rates in the 80th percentile and that has never been done before. We knew the Koreans could do it because they overwhelmed it with manpower, but now we can finally do it because we have the parts.

FLYING TIME

We are now getting 22 percent more flying time per crew. Seventy-six percent more combat sorties are available to us, supported sorties with munitions, parts, and spares. That is a lot, and they are more effective sorties because most of the aircraft today are F-15's, F-16's, and A-10's.

For example, during the last air-to-ground gunnery meet we had at Nellis—when the F-16 was entered for the first time—the top gun dropped his bombs an average of five feet from the center of the target.

Five feet is a lot better than many of the precision guided weapons that we have.

The time before that an A-7 from a good Guard outfit in Colorado was the top gun and he averaged 29 feet from the center of the target. So this is how much better the F-16 is. It is one whale of a good system. Of course, our other modern systems like the F-18 and the F-15 are good too, but, of course, the F-15 is used only in air-to-air.

These systems are much better, and like I said, quality doesn't show up in the C-status, but it is there. We have received about 1,200 new fighters since 1980, 1,200 more new fighters today than we had 5 years ago. All of these improvements make a difference, and we have to give you a way to measure that. We don't have that today.

I might add, of course, the F-16's are now in the Guard and Reserves, and the F-15's are going in the Guard next year. They are getting the best we have. You know today they fly the C-5's, the C-141's, C-130's, and KC-135's. They are flying almost everything we have now, and they are flying it safely; all of us are.

PILOT TRAINING

We are also flying harder. We are doing the most realistic training, I think, that we have ever done. The trend has been better over the last 5 years. The last 2 years have been the safest years of flying that we have ever known in the Air Force.

At this stage in their development, the F-15 is the safest fighter ever built and the F-16 is the safest single-engine fighter. The makers of these machines have put a lot of time and effort into reliability and maintainability.

SUPPORTABILITY OF NEW SYSTEMS

Secretary Orr and I have added R&M, reliability and maintainability—that is supportability—as a fourth leg of the acquisition stool. In the past when bringing in a new system, we normally talked about cost, schedule, and performance. You can meet all of these parameters, cost, schedule and performance, but if you can't support the system, it is not going to do you much good.

We think that this is very important and we are going to measure it all along the way, from the design all the way through to production and into the field. We are excited about that. We think that it is going to mean a lot to us.

AIRLIFT STATUS

In airlift, we have 65 percent more airlift available to us in C-5's and C-141's today than we had 5 years ago. We got 30 percent more from the stretch of the C-141, and we have parts and spares that we have added to the rest of the force.

That is quite a bit more airlift today, and it doesn't include the KC-10's that we have also added to the force. We also have more than a thousand air-launched cruise missiles in five operational B-52 squadrons.

I think you will agree that we are much more capable, and that we have used the money given to us to good advantage over the years. In the future, of course, we would like to see that trend continue as much as possible.

MX AND CHEMICAL WEAPONS

The two concerns I have are MX and offensive chemical weapons. I think, the Soviets know how good the MX is. The first seven test shots have been fantastic; they exceeded all of our expectations. Just ask yourself, does the MX help deter? Does it influence Soviet behavior?

I think it does, and I think it will. They know how good it is, and they know that those thousand warheads that they would have to face would mean a lot to the balance. I think it is the single most important thing we are working on, and I think that chemical weapons are next. I do think the MX was a great influence in bringing the Soviets back to the table.

CHEMICAL WEAPONS

We have chemical weapons today but they are old, unsafe, and I will not go into a full litany—but they are just not effective. They are not effective as a deterrent.

All we are asking for is a modernization of what we have—a modernization that allows us to put two kinds of liquid into a bomb and separate it so that it is safe to move around without being toxic or hazardous. We do need that.

The only way to have a successful chemical war is not to have one. Not to have one means that you have deterrence, and that means an offensive capability. In World War I, one side had chemical weapons and they used them. In World War II, both sides had them, and they were not used. I am afraid that we are reaching a point where we are in a very destabilizing situation.

STATUS OF JOINT SERVICE PROGRAMS

In jointness, I am real proud of what we have been able to do with the Chiefs and the services working together. Let me just give you one example. Gen. John Wickham, the Army Chief, and I have gotten together and worked up 31 initiatives to make sure that we don't have any voids or duplications in the air-land operations we conduct together.

Let me give you a few examples of the initiatives that we have ongoing. The Air Force had a ground jammer, and the Army had one, too. Ours was to be used to jam attacking aircraft as they came across the line. We were to put these jammers in a series of vans all across the front. The Army also had a series of vans they were going to put all across the front with jammers to do another function for them. Both jammers were being built by the same contractor in the same building with just a partition in the middle. Now, we are going to take our black box and we are going to put it in the Army van, and I canceled the Air Force program.

The same thing happened with the airborne jammer. The Army had an entire set of aircraft with airborne jammers. Now we will give the Army the station time that it needs, and we can carry their black box to do that job. We are committed to do that, and General Wickham has canceled his program.

You have heard of JSTARS, the Joint Surveillance Target and Attack Radar System. The Army was going to have a small aircraft along the front to identify close-in targets. We were going to have a larger aircraft to look deeper. We have now combined it all into one platform with one radar. It is a big savings, and we will be able to do the job better. We will also have the capability to deploy to other theaters, not just to Europe.

There are a number of other good examples, but I won't go into them. This is the kind of thing that we should have been doing better before, but we are going to do more in the future. We have just added another initiative—it is a continuing process.

We build our budgets together. We have people sitting in on the Army budget drills and they have people sitting in on ours. We have also exchanged Air Staff officers with Army Staff officers. I am talking about a full time exchange. We have exchanged seven officers each, and they are working in electronic warfare, doctrine, and other areas full time.

I think we do have a closeness that we have never seen before, and I think it is working well. The Navy has signed up to four of those 31 initiatives, and it looks like they will sign up to seven more.

Our connection with the Navy is mostly operational. They love to see our F-15's, our KC-10's and our AWACS working with their carrier task forces to extend the outer air battle. We can do that

anywhere in the world now with little problem because we have a lot of practice.

We, of course, train with them in Red Flag at Nellis, in our combat training crucible out there. On the east coast, we are building maritime ranges at Charleston and at Key West where we can practice our tactics in maritime air support operations. We are working much closer together now.

OUR AF PEOPLE

Finally, I want to talk about our people. All you have to do is go around and visit our bases to see how enthusiastic and motivated our people are. The reason for this is they know that they can do their mission. They are proficient and they are getting the flying time to stay that way. The ground crews have parts now so that they can keep the planes in commission. They don't have to cannibalize parts nearly as much—and work extra to do that.

As the Secretary was saying, we have a good situation today. We are going to maintain momentum and keep these good people with us. But I think doing that will require us to maintain the readiness of the forces that we have.

Thank you very much, Mr. Chairman.

Senator STEVENS. Thank you, General.

Senator Kasten has a couple of questions. If there is no objection with the rest of the members, I am going to yield to Senator Kasten.

Senator KASTEN. Thank you very much, Mr. Chairman.

I just want to say, Secretary Orr and General Gabriel, we enjoyed working with you and look forward to working with you over the next years. We are facing some difficult decisions.

Mr. Chairman, I would like to submit one question having to do with the B-1, the program for the spending, and also a question having to do with the acquisition process. I would ask unanimous consent that these questions be submitted, and hopefully that you could get back to us.

Secretary ORR. We will be happy to. Thank you for your remarks, Senator.

Senator STEVENS. Thank you, Senator.

What is your situation, Senator Johnston, do you have any opening statement?

Senator JOHNSTON. No, Mr. Chairman, I have no opening statement. I have a number of questions, and some of them bear on Senator Rudman's proposal, which I assume he is going to ask the general about. So I would defer to him at this time, and I would like to follow up after him.

Senator RUDMAN. I will go back to the regular order and defer to the chairman.

Senator STEVENS. As a matter of fact, I did have a couple of questions, Senator, that I thought I would go to. I have a bunch of questions that I am going to submit for the record. But I am very interested in pursuing Senator Rudman's initiative and seeing the dialog that develops.

NATO MANPOWER

I want to get back to NATO again this year. Last year we directed the Air Force not to expand the manpower in Europe, but my staff informs me that there is an increase of 3,000 in Europe notwithstanding that direction so far.

The end of the fiscal year has not come yet, and I am not saying that you have done anything contrary to the committee's request. You have indicated in your statement that you may have to reduce more than 3,400 military authorizations from the Air Force program, and that is for 1986.

What is the situation with manpower in NATO now, and what will this budget do to that as far as the level that we have directed the Air Force to maintain in Europe?

Secretary ORR. Mr. Chairman, there is a law, as you recognize, that sets the total military ceilings in Europe under which the Secretary of Defense is being guided. Within that law, the Secretary of Defense and CINCEUR are working out the exact division between the services.

In the meantime, we are working hard under the direction of the Deputy Secretary of Defense to find what jobs we can civilianize over there. We came up with a list, I think approved by CINCEUR, and we are working toward channeling the military jobs into civilians jobs—primarily, I think, civilian jobs of European origin.

LIMITATION ON MANPOWER IN EUROPE

Senator STEVENS. Mr. Secretary, respectfully, in our report last year, we indicated that it was the clear intent of the committee that the Air Force should limit military manpower stationed in Europe to the 89,900 end strength for fiscal year 1984. We are talking about budgetary limitations, it wasn't our intent just to see jobs changed from blue suit to civilian.

We have, according to my latest calculation, 326,000 ashore, and that is not counting the Navy, I was using 346,000. That is not just yours, that is everybody. In addition to that we have U.S. dependents, and we have in addition to that U.S. civilian servants and their dependents. Then we have the in-country employees of the host country.

My latest estimate is that we have 1.1 million people in Central Europe employed or supported by the taxpayers of this country. That limitation that we asked to be imposed was not a limitation on just those in uniform, it was a limitation, period.

PLANS IN LIMITING EXPANDING NUMBERS OF PERSONNEL

What I want to know is whether there is any plan that is in place that will enable the Air Force to sustain its on-going program, which we have supported, stationing the new cruise missiles there, stationing the Pershing II there—Pershing is Army, but it is within this total framework of people.

Particularly the Air Force, we recognize that you have some transition to take place and there is going to be a period of time when you are higher than the limitation. But is there a plan to

keep down this ever expanding number of personnel, military and civilian, in the NATO assignment?

Secretary ORR. I will let the General speak to that issue, but I can tell you that we brought back all of our OV-10's in Europe and we have deployed them in this country. So we are moving in that direction.

General GABRIEL. We brought the OV-10's back. We didn't send a civil engineering group over. We have some other plans to bring additional people back. We are not going to send a C-130 squadron over as once planned. CINCEUR had the C-130 squadron as his number one priority for some time to increase intra-theater lift.

You know the build-up we have ongoing. You mentioned the ground-launched cruise missile. We also have TR-1's and EF-111's going in there. The latter two are force extenders, and CINCEUR, General Rogers, would want to take these even if we had to bring muscle back home, which we are going to have to do. We have already started with the OV-10's.

We are going to leave the decision to CINCEUR, to tell us what it is that has to be brought back because it is his force and he has to fight with it. As the Secretary mentioned, he has cleared some civilian slots. Whatever we have to bring back to get within the 326,000 we will. CINCEUR will be here to testify about this issue.

ADMINISTRATIVE SUPPORT FOR GLCM

Senator STEVENS. The last year we questioned what we considered to be excessive administrative and overhead personnel costs on GLCM in your deployment in NATO. Has there been anything done to respond to the questions we raised last about the level of administrative support for GLCM?

General GABRIEL. We did scrub it, but I don't know the number that we reduced, we will provide it. It was scrubbed very hard after we had those questions from you. It will vary by base depending on the support situation and where they are in the work-arounds. We have already scrubbed the bed down at Greenham Common.

[The information follows:]

GLCM DEPLOYMENT IN EUROPE

As a result of both the Senate Appropriations Committee (SAC) and the legislation regarding European Troop Strength, the entire GLCM manpower program was subjected to another thorough review. Specific attention was given to the "tooth-to-tail" ratio at Greenham Common cited by the SAC. Specifically the SAC indicated that 75 percent of the authorized manpower was in support functions, with only 25 percent authorized to operate and maintain missiles. The SAC also questioned the requirement for 52 authorizations in the comptroller's office. In making their tooth-to-tail assessment, the SAC considered weapon system security as a support function. Whether in garrison or deployed in the field, GLCM systems require stringent security. Therefore, we consider weapon system security mandatory manpower; as such, the tooth-to-tail ratio becomes 44/56. Regarding the size of the comptroller activity, there are 32 military and 10 civilians authorized in comptroller functions (budget, accounting and finance, management and cost analysis, etc.) to serve an organization the size and structure of a GLCM wing. There are also 20 military and 1 civilian authorized in the data automation activity which was a comptroller function at the time the SAC collected the data.

NATO SUPPORT IN AIR FORCE FISCAL 1986 BUDGET

Senator STEVENS. I am going to yield to my good friend here, and he has done a great deal of work on his proposal. I intend to do everything we can to work with him and his goal of trying to see to it that we keep the modernization program going and absorb a portion of the cuts that must come to this budget in manpower.

I would like to know, for the record, how much of the 1986 Air Force budget is actually dedicated to supporting the NATO commitment, not just the forces in NATO, but supporting the NATO commitment, and the extent that that has increased since 1980.

We are looking at a continuum of increased costs which appears to tilt more toward the non combatant, support and administrative personnel. It is not a question, it is a request, and we would like to have that for the record, please.

[The information follows:]

NATO SUPPORT IN AF BUDGET

The Air Force is working with the Secretary of Defense's staff to prepare a report entitled "U.S. Expenditures in Support of NATO". This report responds to Congressional directives in Section 1002, P.L. 98-525, FY 1985 Defense Authorization Act and will be submitted to Congress on 1 April 1985. It would be inappropriate to comment on specific numbers outside the context of the DoD report.

RENT PLUS PROGRAM

Senator STEVENS. I will yield to you, but let me ask a parochial question first. I forgot this.

I asked for a GAO audit or a DOD audit of the Rent Plus Program for Alaska and Hawaii, and I am told that we got both. GAO and DOD have audited that. The recommendations have been to reform Rent Plus and replace it with a variable housing allowance for Alaska and Hawaii.

A great portion of the area that was criticized in both of these reports related to the Air Force in terms of abuses and failure to control the cost of the Rent Plus Program in Alaska. Are you familiar with that?

Secretary ORR. I certainly am, Mr. Chairman, in Hawaii, not in Alaska. The report I saw related to Hawaii.

Senator STEVENS. But it applies both places.

Secretary ORR. I am prepared to talk to that report.

Senator STEVENS. What I am interested in is, first, trying to find a way to transition to having one program ultimately as far as the housing allowances are concerned, the secondary housing allowances program.

It seems to me that for the time being what we have to do is to find corrective uses and control the costs in the Rent Plus Program. Do you have some initiatives on the way to do that?

Secretary ORR. I would like to talk about what the report said because I don't happen to agree with it.

Senator STEVENS. You don't agree with it.

Secretary ORR. No.

Senator STEVENS. I will be happy to hear that, too.

Secretary ORR. I have five points that I would like to discuss that were the five points mentioned in the report.

DESTROYED RECORDS

The first one is that we destroyed records. There were two records involved, one was the lease or a copy of the lease, and one was a DOD form. We did destroy the lease; we probably should not have. Instructions have gone out to not destroy them in the future. We had 2,500, and we simply called for the people to bring their leases in and we made another copy.

The form was not destroyed. The Hawaiian branch's was destroyed, but the form itself was sent back, or a copy of it, and resides in the United States and stays for 6 years and 3 months as per the provision for documents like that.

SHARES PROGRAM

The second criticism was that we do not have a proper program for sharers, that is someone who receives a rent allowance and lives in quarters with someone else. We do have such a program when the two people sharing are military. Their allowances are cut proportionately because two military people are occupying only one quarters.

We do not have such a situation where a military person elects to live with a nonmilitary person. The assumption made by the DOD or the IG auditors was that the allowance should be cut in half because two people share the room. Under certain circumstances they do share equally, but I imagine there are literally hundreds of cases where they don't share it equally.

I can see someone who rents an apartment and says: "I have a spare bedroom, you can have that bedroom but that doesn't give you the rights to the living room, the kitchen, or any other parts of the apartment." I don't think that you can make the assumption that simply because two people live at an address, the rent can be cut evenly. I think you know, and I certainly know, thousands of people who rent out a room without intending to rent half of their house.

SKEWING RENT DATA

The third thing was that we skewed the data. This is a very interesting situation. We started at the lowest, and we listed rents. Say, we start at \$600. There was one rent at \$600, one at \$625, one at \$650, and three at \$700, we listed those three as one rental, and went up to \$725. Maybe there were seven rentals at \$750 and we listed that as one rental.

We took them as groups, and moved up 80 percent from the lowest toward the top by groups. The DOD is suggesting that we should treat each rental as an individual unit. It is perfectly proper, and we have no objection to it at all. In the given illustration, it would have reduced the amount we were paying, and in other illustrations, it can raise it. It depends on where those particular rents fall.

I think it is somewhat academic whether you treat three rentals of \$700 as a group and call it one rental or whether you take each one. Under different balances of where the rents fall, it could mean more money rather than less.

We have corrected the allowance for single people. We were paying the same for single as we were for married. Since the audit came out, we have cut to 80 percent the allowance for single people.

MISUSE OF SPACE

They said we were misusing space on base. We had vacant space on base, and we were allowing people to live off base. That is strictly an auditor's determination of how much the people should have in the way of living space.

The DOD absolute minimum is 90 square feet per person. The Air Force tries to come out with 135 square feet. If we used the DOD minimum criteria, there were rooms where one person is living that you could crowd two into, and to that extent we could have utilized the base housing to accommodate extra people.

We don't think that, over the long term, 90 square feet is very good living conditions, and we have tried to go up to 135. It is not that we had extra rooms and empty spaces and were not utilizing them. It was strictly a determination of how much living space a person is entitled to.

Then I was also interested that at least one newspaper report said there were widespread abuses of this housing. We have court-martialed three people, and we have four under inquiry—that is a total of seven. There are 2,500 people over there and we're dealing with 3-year period. With turnover, we are talking about 5,000. I don't think that even if all four are guilty, making a total of seven, that is widespread, Mr. Chairman. I think that is a very small proportion of abuses.

ADJUSTMENTS IN RENT PLUS PROGRAM

Senator STEVENS. Do you have a program to straighten out the excesses so that we can rely on the Rent Plus, and what is going to be your recommendation?

Secretary ORR. We have already cut to 80 percent for singles, and DOD has a committee to look at how we share the expenses if a military person wishes to bring a roommate in who is civilian, not entitled to rental allowance, how we are going to cut the military allowance for that.

Senator STEVENS. I am reluctant to get into the question of lifestyle in the two offshore areas.

Secretary ORR. I am, too.

Senator STEVENS. We have so many young people these days who don't get married until they have lived together for 2 or 3 years, is that what we are talking about?

Secretary ORR. It could be, or it could be two men or two women. It does not have to do necessarily with the lifestyle, it just has to do with the person who draws a military housing allowance and says, "But I am going to get a civilian roommate, male or female, same sex or different sex."

Senator STEVENS. If they are technically not married, they get single allowances, right?

Secretary ORR. If they are technically not married, we have just cut the military person to 80 percent.

Senator STEVENS. In the lifestyle of the new generation, then they are already being penalized for their lifestyle; right?

Secretary ORR. That is correct, Mr. Chairman, they are penalized 20 percent.

Senator STEVENS. Inspector general says that they should get only half of the amount since they are only occupying half of the space.

Senator ORR. He is assuming that they are only occupying half, an assumption that to verify requires you to go to each house and say, "How much does each renter in this house have to share?" In some cases, half, no doubt, and in some cases, maybe just the room.

Senator STEVENS. I suggest the inspector general and the GAO come into the 21st century with the rest of us, and that we abandon that part of that report. Other than that, I hope that you will adjust the Rent Plus Program so it will survive until nationally we can put the two together because I don't think that they should be forced together in Alaska and Hawaii alone.

Secretary ORR. Let me just say, Mr. Chairman, the thing we most want to do is to take care of our people, I think you understand that.

We don't like abuses any more than you do, and where there are abuses, we intend to root them out.

Senator STEVENS. Thank you, I don't want to belabor it.

Senator Rudman.

Senator RUDMAN. Thank you very much, Mr. Chairman.

I am going to have to have a little discussion with the chairman after the hearing. I want to find out what the difference is between not being married and technically not being married. [Laughter.]

It seems to me that this is a distinction without a difference, but maybe the chairman knows something I don't know.

Senator STEVENS. I will tell you that when you are at my stage in life with five grown children and one that is just coming up, I can give you a long lecture on what it means. [Laughter.]

Those of us in my age bracket consider themselves successful when our children are technically married. [Laughter.]

Senator RUDMAN. I thank the chairman for enlightening me. I appreciate it.

Mr. Secretary and General Gabriel, I want to first start out by saying to you that at your invitation over the past year I have had the opportunity to take a good look at many things that you do.

I certainly believe that everything that you say in your statement is very accurate. I find it particularly interesting, General Gabriel, that you stressed readiness, which I think as the Chief of Staff of the Air Force is what you ought to stress.

Some of my questions today may sound like the apocryphal fellow who said, I am from the Government and I am here to help you, but I really am.

PROPOSAL OF SENATOR RUDMAN

I have furnished you with copies of a proposal, but I am sure that with all of your other problems and duties, you have not had a chance to examine it in detail, and I would not expect you to have.

However, I do want to question you generally about the whole question of where we are coming from.

I want to start out with a very direct question to which, if it is at all possible, I would like a very direct answer. I have asked questions like this before. In fact, I went back to the 1981 hearing record and found some very interesting disclosures at that time. I may refer to them later on here today.

Let me simply put it on this basis. If you accept the proposition that this Congress, whether it is right or it is wrong, is going to make substantial further reductions in the request that you have before us, which I accept as a very valid assumption for all sorts of reasons which are not important to go into today, if you accept that, then we on this committee have three choices.

CHOICE OF DIRECTION TO TAKE

First, we can do things to affect F-15, F-16, MX, B-1, AMRAAM, Sidewinder, Sparrow, and about ten other programs. We can either cancel some, which hardly addresses the question of budgetary constraint, it is a matter of national security policy, but some people don't know the difference. Or we can stretch out programs, but in the final analysis in the next 2 years we save little money from doing that by your own figures.

No. 2, we can attack the very issue, General Gabriel, that you have discussed very eloquently, and I think you have the facts to backup your words, in terms of what is happening, the readiness between 1981 and 1985, opposed to what happened to readiness from 1976 to 1980.

No. 3, we can take a long, hard look at manpower in all the services, and address the growth of manpower in the indirect support and auxiliary support areas.

Given those three choices, picking one of the three, not a blend of the three, I would like your response as to which way the committee ought to go?

Secretary ORR. If you want me to take a very hard look at the manpower, I am very willing to do so, but on the basis of the preliminary report I have seen of your remarks, I am not willing to say that we are talking about the same thing, Senator.

Senator RUDMAN. General Gabriel.

General GABRIEL. Stretching, canceling, and so forth, in terms of procurement, usually doesn't save a lot of money in the near-term. When you are talking near-term savings—that is the reason I was preaching readiness, and every Chief would—it is because most of the money that you get in the budget year, will come out of O&M. It will come out of people programs. It will come out of your lifeblood, readiness, if you want early savings.

As I mentioned, there is that balance that I am worried about. We have put our program together in accordance with priorities—strategic forces are first, you don't touch the strategic. Readiness and sustainability, we have second.

People, we rank above everything else. But you still have the priorities: Strategic forces, readiness and sustainability, mobility, which is airlift to us, and then finally tactical forces. In tactical

forces we look at enhancement, force structure build, and modernization.

We have been trying over the years to get up to 40 tactical fighter wings, but we haven't made it. We are hoping to get to 39 in this 5-year period. We are at about 36 wings now, or a little better, and growing very, very slowly. We are trying to stay at an average age of about 10½ years on our fighter aircraft, compared to about 7½ years for the Soviets.

So you have to have balance, and you have to have enough to prevail in the first days of the war and survive for a period of time. And then you get into sustainability. There is a need to have enough at the start of a war, and need to be able to fight in several different areas at one time. You have to have enough force structure to handle that. Then you have to have enough sustainability—parts, spares, and munitions, to last the course.

So it is a careful balance, and I think we have done well with what we have. But if you start backing off in all of these areas, it is not just a simple task this or that.

Senator RUDMAN. General Gabriel, if we were to wave a magic wand and say here is what we are going to do for you this year. We are not going to stretch out or cancel any of the programs you have going. We are going to finish them for the first time and on schedule.

We are not going to put aside the initiatives of the last 4 years, we are going to go ahead and finish these systems, both the major systems and the subsystems, on schedule. The chairman might disagree with that, but I am giving you a hypothetical.

Second, we will take all of those funds that you have clearly identified in your submission as readiness and we won't touch them. But we will go back into those things that you have clearly identified as direct support, indirect support and auxiliary services, and say to those people in those areas of the U.S. Air Force and all of the service structures, the rest of you people are going to have to work a little harder, including your civilian force, which incidentally is 1.1 million people servicewide.

Do you not think that this would be the more responsible thing to do rather than hit your readiness and hit your procurement?

General GABRIEL. I don't know. It might be possible, if you can do it as simply as that, but I am not sure. I would have to see who it is that you are taking out and what they do.

In the Air Force, you know, we have very few people combat coded. Like the sortie generators, the maintainers, they are support people in the field. You are not talking about taking those out?

Senator RUDMAN. I am not touching them at all, General.

General GABRIEL. That is part of readiness.

Senator RUDMAN. I am not touching them at all. I am not touching the combat people or the support people. I don't have a lot of time, but let me just give you an example of what I am talking about.

Incidentally, I am starting to learn how you got to be such a very good fighter pilot, you can really evade some of my central strikes very well.

[General laughter.]

AIR FORCE SYSTEMS COMMAND

Senator RUDMAN. Let's take the Air Force Systems Command. It is very interesting. I have studied all of the support structures of all the services over the last number of weeks, and I have all of the information. I would like to meet with you on it at some point in the next several months.

I would just like to talk about the Air Force Systems Command for one moment. You have 26,000 in that command; 34 generals, 10,500 officers, about 16,000 enlisted men. It does not manufacture equipment. It does not carry out major R&D. It does not build prototypes. It consults and works with contractors.

You take the entire Air Force Systems Command, I say to you, General Gabriel, we are in a tough time this year, those of us who are your friends don't want to hold up on your production, on your aircraft, on your missiles, all of your procurement. We don't want to touch that wonderful readiness that gave the people at Nellis such superb results this year.

But we want you to go into the Air Force Systems Command, to take an example, and find us somewhere in the vicinity of maybe about 1,600 to 1,800 people, then go into the civilian support of the Air Force Systems Command and find us about another 1,000, then redistribute their work around a la Mr. Iacocca at Chrysler. These are almost the precise numbers he did at Chrysler Corp. Do you think that you could do it?

General GABRIEL. I am not sure that I could do it as well as Lee Iacocca, but if you tell us to do something like that, we would do it. You have to remember, though, that those people are in charge of, I don't know the total now, about \$42 to \$50 billion in major programs. They are scientists and engineers.

In respect to the Air Force Logistics Command, you might say, "take some management out of the Air Force Logistics Command." We added 1,000 people there last year and saved over half a billion dollars in buying parts and spares through management initiatives. So it is sometimes cost-effective to have those people around.

OVERMANAGEMENT OF COMMANDS

Senator RUDMAN. I understand that. Let me say to you that it is my position, which I will develop later as we go through all of these hearings, that those commands, as well as the Navy and the Army, are overmanaged. I won't go into the 68 separate directorates that are on this particular chart of the Air Force Systems Command. There are 68 separate directorates, and I would say to you that most good business managers would see that some of those might be consolidated.

Obviously, we understand the mobilization base argument you make, but that is a whole other issue. I guess what I am saying to you, General Gabriel, is I am going to resist mightily efforts in this Congress to make major stretch outs in procurement or to cut O&M because I saw what it is between 1976 and 1980 as an observer. I think that if we are going to take it from anywhere, we ought to take it out of indirect support and auxiliary services, and I want to work with you to try to find a reasonable solution.

General GABRIEL. We appreciate it, and we will work with you.

Senator STEVENS. Senator Johnston.

Senator JOHNSTON. Thank you, Mr. Chairman.

NEED FOR BASIC PERSONNEL REFORM

General, I very much agree with the central thrust, and that is that we need basic personnel reform. My concern, and I want very carefully to work with Senator Rudman on this, is to be sure that we don't take those key people out. That is what usually or frequently happens or at least that is what frequently is given to us in the Congress as a reason you can't do something, because when you want to take out 10 percent of the people, somehow you end up taking out your pilots or your most important people, notwithstanding these days that there are not enough to do that. They put that forward as the reason that you can't do it, and frequently you will convince people that you can.

I am satisfied, though, that we need basic personnel reform. We heard a panel of witnesses yesterday who testified before the Budget Committee that one of the problems with procurement in the Air Force, and in the services generally, is the overstaffing of the systems commands so that you create a whole department for the left bolt on the right wing. They micromanage and overmanage the procurement of that particular part so that the specifications become overburdensome, the lead time and the delay time in order for them to fully justify their work become that way.

I was persuaded that not only can you cut down the number of people that Senator Rudman is talking about, but if you cut out the right ones, you will have a more efficient, leaner and meaner, to use the vernacular, system afterward than you had before. I just hope that we can find the formula, with the Lee Iaccoca and Secretary Orr's management ability here, that we can get that done.

I am very much in the ballpark with Senator Rudman when he says, it has got to be cut this year, there is no choice, it will be done. The question is, where is it going to be done. If it is done with cooperation, I think that it can be done well and sensibly.

On the subject of basic personnel reform, I am persuaded that, first of all, the kind of personnel reform that I think we need probably can't be done that quickly this year. We are going to do it most simplistically by dealing with end strength and that sort of thing.

REEXAMINATION OF BONUSES AND MILITARY PAY

One of the problems that I see is that through the years, when we have needed radar operators or other highly skilled people, we will raise a whole group of military people up in order to make it attractive enough to get radar operators, or electronics specialists, or whatever. Consequently, your costs of personnel are higher than they ought to be, and you still don't have enough money.

In the case of Navy pilots, we don't have enough Navy pilots, you heard that yesterday when they announced that they are going to pay \$36,000 bonus.

Do you agree as a general proposition that we ought to go in and reexamine—I say we, but probably the Armed Services Committee would have to do it—the whole personnel structure so as to put the

money where the required scarce MOSs are, rather than just raise the total level of military pay?

REENLISTMENT BONUSES

Secretary ORR. Let me talk to that, if I may, Senator, because it follows along an idea that I had 4 years ago when I came in, and that was why should every sergeant in the Air Force or the Army or the Navy be paid the same amount of money? Some are much more difficult skills to recruit, avionics and radarmen, than possibly a cook or a baker or security police.

I investigated that with my people and the answer came back that they feel, and I guess I am fairly well convinced, that it is better to keep the basic level and adjust by our reenlistment bonus, which amounts to almost the same thing. Those are variable by skill and they are cancellable.

We have pulled out, in the 4 years that I have been there, probably 10, 12, or 15 bonuses that we no longer pay because we don't need to pay them anymore, and we have added at least 10 or 12. I don't mean to say that we have made a net reduction. We have added 10 or 12, maybe more, in other fields that became scarce. It really amounts to the same thing.

If you take \$36,000 for a Navy pilot for 6 years, that is 72 months, I guess that is \$500 a month. You could either pay the price \$500 a month more, or you can pay him \$36,000 in one lump. Either way, at the end of 6 years he has made more.

PAY FOR CAREER PERSONNEL

Senator JOHNSTON. By the way, what do you do with regular Army and regular Air Force people who don't reup?

Secretary ORR. That what?

Senator JOHNSTON. Those that don't reenlist, those who are career people.

Secretary ORR. If we have a skill that is scarce, we will give a reenlistment bonus, I am quite sure, at every reenlistment. In other words, if they are reenlisting from 4 to 8, or 8 to 12, or 12 to 16, they will get a bonus.

Senator JOHNSTON. I am talking about the regular Air Force people, the person who signs on for the duration?

Secretary ORR. Officers do, but not the enlisted personnel.

General GABRIEL. They have checkpoints.

Senator JOHNSTON. With respect to officers, what happens?

AIR CREW INCENTIVE PAY FOR PILOTS

Secretary ORR. With officers, that happens to be the reason that General Gabriel and I have not gone to the bonus for aviators. We think that our aviators come into the Air Force for life, and we prefer to pay them what we call air crew incentive pay, which is a monthly allocation for flying, and not consider that at a given point, they will go out if they don't get a bonus.

Senator JOHNSTON. You think that you can calibrate these reenlistment bonuses as well as you could redo the basic pay structure.

Secretary ORR. We have tried, Senator. That has been the attempt. It is a little more flexible because if you build a man up in a bonus, like a radarman, for example, when you get him up \$200 more than a basic sergeant would make, just as an illustration, and then the skill isn't scarce anymore, it is harder to bring his base pay down than just to cancel the enlistment bonus the next time he comes around.

EXTENSION OF B-1 BOMBER PROGRAM

Senator JOHNSTON. Gentlemen, there is more than a rumor on the Hill, there is a lot of information available to various offices on the Hill indicating that an effort will be made to extend the B-1 Program beyond the first 100 bombers.

The idea is that if we put up about \$60 million in prior year funds and about \$560 million in fiscal year 1986 funding, then they can purchase the long lead time items, primarily the titanium forgings, which would give at least the option, if not the reality, of going beyond, the first 100 bombers, that with the further suggestion that the ATB program is going to be so expensive that people are not going to buy.

Secretary Weinberger has testified in unequivocal terms that it is not the desire of DOD to purchase beyond the 100, and that the program will be canceled at that point, and further that the ATB program is as promising as it ever was. Is that your judgment?

Secretary ORR. Yes, Senator. As a matter of fact, there is no movement within the Air Force, no figures, no plans, no documents that I happen to know of that talk about the 101st B-1B. The figures that you have, I would assume, must have come from the contractor.

Senator JOHNSTON. I think they do.

Are there controls within the Air Force that prevent excess procurement monies going into separate funds for purchase of long lead time items?

Secretary ORR. Yes, sir, you prohibited that. Our regulations are that we must come to Congress for long lead items.

Senator JOHNSTON. I mean, there is oversight with respect to that?

Secretary ORR. Yes, sir.

ATB PROGRAM

Senator JOHNSTON. Is the ATB program—I don't want to get into deep secret matters, but there is no reason to think that ATB will come in so expensive that we won't be able to buy it when the time comes?

Secretary ORR. I don't have a figure on the ATB, and I wouldn't want to quote one. I would say that if one were to look at the cost of the first ATB and the 100th B-1 bomber, there will be a big discrepancy because you are on the downside of the learning curve on the B-1, and you are at the highest point on the ATB.

Other than that, I have no reason to think that if you measure planes by weight, and oddly enough we do, it will not be consistent with other aircraft in the proportion of its cost to its weight.

Senator JOHNSTON. There is no reason to be discouraged then?

Secretary ORR. None, Senator.

Senator JOHNSTON. Very well.

I think that is all I have, Mr. Chairman, thank you.

Thank you, gentlemen.

COST OF B-1 CONTRACT SLIPPAGE

Senator STEVENS. Following up on that question. You have announced a slip in your contract for your multiyear procurement of the B-1 to March. Is that going to affect the cost of that?

Secretary ORR. No. We are just in hard negotiations with the last of the four major contractors, and we haven't quite resolved the figures we want. We still are going to make the \$800 million in savings we promised Congress we would make with permission to go multiyear funding.

Senator STEVENS. Can we still expect a budget amendment in March to effect those substantial savings that we anticipated on the B-1 program?

Secretary ORR. If you ask for it, you will get it. We would love to come in. Believe me, we are not adding one thing to that B-1. It has to go through me and it has to go through Secretary Weinberger, and nothing additional has gone through. So we are not using up funds putting nice goodies on.

We would like to come in farther along because, as you recognize, only one plane has rolled out to date. It is a little early to start talking about where we are going to be. On the other hand, when we have completed the last of our major multiyears with the four contractors, we should be in a position to tell where we think the program will end up, Mr. Chairman.

COMBINING B-1 AND STEALTH

Senator STEVENS. I have been one who has sort of hinted along the lines that it might be possible to marry the B-1 and the Stealth down stream. Is there any talk being given to that?

Secretary ORR. The B-1B itself, as you may know, is one-tenth as radar observable as the B-1A, and that, in turn, was one-tenth as observable as the B-52. So the B-1B we are now building has one one-hundredth the radar visibility of the B-52, and that has elements of Stealth in it. I don't think there are more elements of Stealth—there might be a few more, but not a major amount more Stealth that can be put into that airframe.

FUNDING REQUIREMENT FOR AMRAAM

Senator STEVENS. You have \$540 million budgeted for the continued development of AMRAAM, and the production of the advanced medium air-to-air missile. You told us that you may restructure this as a joint service program. Can you tell us how and when will we be notified of the actual 1986 funding requirements for AMRAAM?

Secretary ORR. Let me give you a little background on where we stand on that. We had a full-scale development contract with Hughes for approximately \$550 million. The contract will be completed for that amount, although we think Hughes is probably

overrunning. It was a firm fixed price contract, so any overrun comes out of their money, not ours.

However, we are running approximately 22 months longer than we thought we would run when we started the program. It was too concurrent. We had options, last March, a year ago, to go into production, and we simply were not ready. So the options lapsed.

When we went back to rebid or get new options, the price was higher, in part because the original options were actually attractive, and in part because we are 2 years farther down and we are working in out-year dollars. The amounts we brought in, Mr. Weinberger said, were excessive. He directed us to go back and either find ways to bring that program in for less, or he indicated he very likely would kill the program.

So we are working, under his direction, to do one of two things: Either find ways we can bring it in cheaper, or go back and tell him that we can't—therefore, he may well ask us or direct us to eliminate the program. That information should come to you around June or early July.

Senator STEVENS. That is good.

SAVINGS IN C-5 AIRCRAFT NEGOTIATIONS

You announced a \$430 million saving in C-5 aircraft negotiations. Can you tell us what kind of savings we have achieved, where the costs really came from, and what are we really facing with regard to the C-5B? Is there going to be extension of that one, too, as far as procurement is concerned?

Secretary ORR. Again, we have absolutely no plans for a 51st C-5. I would tell you that the CEO of the Lockheed Co., the chief executive officer, was in my office last week and followed that with a proposal, which I will be sending to the various committees here, that proposes building 12 more C-5B's, 1988 and 12 more in 1989. It was not sought by me. It was an unsolicited proposal. I share it with the Congress because I feel an obligation to do so. But the Air Force plans are for 50 and no more.

The savings that we got, in large measure, resulted from the fact that this contract had an economic adjustment clause in it. The economic adjustments for inflation are considerably lower than we expected them to be when we wrote the contract. We rewrote it based on our newer expectations of inflation in the out-years.

F-16 CONTRACT

Senator STEVENS. What about the F-16, that is still under a fixed-price contract, isn't it?

Secretary ORR. Fixed priced, incentive fee, I believe that is correct. That is correct.

Senator STEVENS. The Navy has done some real, I think, innovative things with their negotiations and got to some fixed price, really fixed price contracts. Why can't we get away from these fixed price, incentive contracts that you have?

Secretary ORR. I have been asking our people the same thing, and there is a strong feeling in Air Force procurement that we do better with an incentive fee. If it is a fixed price, it is exactly the same as if we go to build a house, and we say to the contractor,

"We want to build a house, you tell us what it is going to cost and not a dime more." He is going to protect himself; he is going to bid high enough so that he is not going to lose.

Senator STEVENS. The proof of the pudding is that the Navy, and they tell us that the Navy F-16's are supposed to be greater stress and have more difficult specifications to meet, they came in at \$5 million less on 14 F-16's than you all have.

Secretary ORR. Yes, sir, they did very well, and I compliment the Navy. Our people think that under our procurement, we would have paid \$100,000 less for that plane than the Navy did.

Senator STEVENS. But you are actually paying more now.

Secretary ORR. They are actually paying more for that plane, which is not our plane, than we would have paid.

Senator STEVENS. You are paying more for F-16's than they are?

Secretary ORR. No, sir.

Senator STEVENS. Under the incentive contract?

Secretary ORR. No, sir, we are not buying the same plane. They are buying an F-16N, and we are buying an F-16C/D. If you take off of our F-16C/D all the things that are not put on their F-16N—

Senator STEVENS. I would like to see that for the record.

Secretary ORR. We will.

[The information follows:]

COST OF F-16

The F-16N is a stripped down version of the F-16C/D being procured by the Air Force. The major configuration differences include: a less capable radar and radar warning receiver; no electronic countermeasures; the air-to-surface provisions and the gun system have been deleted; and configuration changes planned by the Air Force are not included.

In addition, the price announced for the Navy aircraft is a contract price which does not include the management reserve, engineering change orders (ECO) and other government costs which are included in the Air Force budget being used for comparison.

The Air Force achieves a cost benefit by procuring the engine, radar, and other government furnished equipment (GFE) directly from the suppliers under the component breakout effort. Whereas the Navy plans to buy the F-16N totally from the prime contractor. Because of the unique competitive environment, the Navy achieved a similar benefit in terms of reduced profit.

The following table provides a comparison of the recurring unit flyaway cost for the F-16N and a hypothetical cost for the F-16 C/D if procured under the same conditions as the Navy procurement.

RECURRING UNIT FLYAWAY COST

(Then-year dollars in millions)

	F-16N	F-16 C/D (fiscal year 1985 buy)
Unit cost	\$9.7	\$15.0
Minus configuration differences: —APG-66 vs. APG-68 radar (—0.8); —ALR-69 vs. ALR-74 RWR (—0.4); —Delete ASPJ (—1.5); —Delete tanks, pylons, launchers (—0.5); —Delete gun and gun system (—0.1)		—3.3
Delete management reserve, ECO and project management		—1.1
Minus contractor profit (13.5 percent) (on the GD furnished portion only)		—1.0
Total	9.7	9.6

For that portion of the F-16 C/D which is common with the Navy's F-16N, we believe the costs are comparable. However, a true comparison will depend on a proposal evaluation and negotiation of the final Navy contract. The Air Force is currently preparing to negotiate the FY 86-89 multiyear contract, and as part of that effort, we will conduct a "should cost" study. We fully intend to use the Navy contract as part of that study. If any cost discrepancies are identified, they certainly will be used during the negotiations with the contractor. The FY 86 aircraft included in these negotiations will be delivered concurrently with the Navy F-16Ns.

Secretary ORR. Let me also tell you something. I think they did very well when we could only buy it for \$100,000 less. We are buying it with all of the immense purchasing power of buying 150 a year, buying the engines directly from General Electric, which they did not, buying many of the supplies directly. They did a great job, but it is not the same plane we are buying.

INCENTIVE SHARE LINE V. FIRM FIXED PRICE

Senator STEVENS. You are still defending the incentive payment contract, the fixed price, incentive contract as opposed to renegotiating a real bottomline fixed price contract.

Secretary ORR. Our people feel that the final result to the Government is better with an incentive share line in which we share together ups and downs in the contract.

Senator STEVENS. I am starting to just sniff around the edges of something that is disturbing me lately, and that is that in days gone by we procured our aircraft and our vessels, and other things, from people involved in the private sector. They literally were responding to private sector pressures.

Today it seems, and particularly in the last 10 years, we have pursued a trend of acquiring major Government defense systems from contractors who do no business with the private sector, as a consequence, we really don't have a yardstick out there for what is a fair price for the contractors.

This touches in this area of fixed price, incentive contracts because it is your mechanism whereby you say you are going to get the best price for the taxpayers. The Navy says, no, we want to use the fixed price contract. Whereas, as I said, in the past we used to have a semi-off-the-shelf basis when we bought DC-3's.

As a matter of fact, in the old days, I used to watch the contests where they had fly-offs for the fighters in the late 1930's out at Los Angeles International Airport. I don't know if you were around then, General Gabriel, but I was.

General GABRIEL. I know about it.

Senator STEVENS. They all came off the shelf of people who were dealing with the private sector. You are dealing exclusively with the contractors who are doing business with you.

Secretary ORR. Mr. Chairman, I would agree that in many instances, we are. The one reason we got, I think, such excellent prices on our engines, however, is that Government business to both Pratt & Whitney and General Electric probably does not in either case amount to 25 percent of their total. They are big engine manufacturers for commercial industry.

Senator STEVENS. But not airframes?

Secretary ORR. No, sir.

Senator STEVENS. The same thing for ships.

Secretary ORR. But, of course, McDonnell-Douglas has been a big supplier of airframes—Boeing which builds our AWACS, is a big supplier of airframes.

COST REDUCTIONS BY COMPETITIVE CONTRACTS

Senator STEVENS. Where is the competitive interest that really brings this down if you are going to a fixed price incentive contract and you are going to stay by that? Where is there any competitive factor from our private enterprise economy that keeps these prices down?

Secretary ORR. You don't have it in the same sense. The best we can do is a "should cost." We go over and look at the material, the technical labor, the overhead, and try and arrive at what we think it should be, and bargain down. We arrive at a target price. Then if they go above that, they share in it. They share in the loss.

Senator STEVENS. Have they had any losses?

Secretary ORR. They have gone well above target, yes. In the Inertial Upper Stage [IUS], we used up all of the money that had been put in there for the target.

Senator STEVENS. How much have you paid in incentive above the target price for the F-16?

Secretary ORR. I will be glad to give you the figures, both the target price and the ceiling price.

[The information follows:]

F-16 CONTRACT TARGET PRICE

The contracts with General Dynamics/Forth Worth Division and Westinghouse Corporation are Fixed Price Incentive. This means that a target price, a ceiling price and share ratios are negotiated with the contractors. The target price represents the most probable cost. The share ratio determines that government/contractor allocation of savings or costs when the actual costs are different from the agreed-to target. The ceiling is the limit of government liability.

For example, the Full Scale Development contract with General Dynamics/Fort Worth has a target price of \$728.7M, an agreed-to share ratio of 90 percent government and 10 percent contractor, and an established ceiling of \$840.6M. We are now 99 percent complete on the contract. We estimate the contractor will be \$14M over target at completion. Under that share ratio, the government absorbs 90 percent or \$12.6M of this cost and the contractor absorbs 10 percent or \$1.4M which translates to a reduction in profit by that amount.

The production contract with General Dynamics for 250 aircraft was negotiated with a target price of \$2,005.3M, a ceiling of \$2,275.4M, and a share ratio of 70:30. This contract is also 99 percent complete. Contractor performance on this contract is estimated to be \$59.1M under target. Under that share ratio, the taxpayers save 70 percent of the underrun or \$41.4M and the contractor receives a profit incentive of \$17.7M. The data for all the other F-16 contracts is shown in the attached table.

One final note: the Westinghouse contract for radar development has costs that exceed the ceiling amount of the contract. Since the government's liability is limited to the ceiling, the contractor's profit is further reduced by the amount the costs exceed ceiling.

Contractor, contract number and product	Percent complete	Target price	Estimated cost variance at completion		Government contractor share ratio	Contract ceiling	Share of variance	
			O target	U target			Government cost	Contractor profit
General Dynamics, Fort Worth, TX								
C-0310:								
FSD.....	99	728.7	14.0		90/10	840.6	12.6	-1.4
250 A/C (77-79).....	99	2,005.3		59.1	70/30	2,275.4	-41.4	17.7
AIS (77-82).....	98	243.6	3.7		70/30	282.3	2.6	-1.1

Contractor, contract number and product	Percent complete	Target price	Estimated cost variance at completion		Government contractor share ratio	Contract ceiling	Share of variance	
			O target	U target			Government cost	Contractor profit
C-0669								
175 A/C (fiscal year 1980)	99	730.7		25.5	0/100	764.8	0	25.5
180 A/C (fiscal year 1981)	98	894.9		27.0	60/40	934.2	-16.2	10.8
C-2034								
160 A/C (fiscal year 1982)	86	956.1		6.2	70/30	1,031.8	-3.7	2.5
120 A/C (fiscal year 1983)	75	926.9	31.7		70/30	1,002.9	19.0	-12.7
144 A/C (fiscal year 1984)	20	1,038.2	0		70/30	1,119.2	0	0
C-2038								
MSIP Phase II	73	498.6		15.0	80/20	561.7	-12.0	3.0
Westinghouse Electric Corp., Baltimore, MD								
C-0115								
Radar Development	78	76.1	32.6		75/25	84.9	8.8	-23.8
C-0641								
116 fiscal year 1983	82	242.7	22.8		70/30	277.4	15.9	-6.9
207 fiscal year 1984	34	321.3		4.0	70/30	365.8	-2.9	1.1
Total				32.0			-17.3	14.7

¹ Limited by ceiling price

FAIRNESS STANDARDS FROM PRIVATE SECTOR

Senator STEVENS. I would like to pursue with you the problem of how we reinject into this procurement program some estimate of a standard from the private sector as to what is fair. Somehow, that has got to come back in, in my judgment.

Secretary ORR. I would love to, also, Mr. Chairman.

Senator STEVENS. Senator Rudman.

Senator RUDMAN. Thank you, Mr. Chairman.

PERSONNEL IN DIRECT COMBAT AND SUPPORT ROLES

Secretary Orr and General Gabriel, what I am about to say in asking you a question for the record, is not in any way a criticism of your legislation liaison people here, who I think do a very good job. But I had a very interesting experience in the last several weeks.

Over the past 3 or 4 years on occasions known to the Chiefs and to the Secretary of the Air Force have come to me, as they do to other members of this committee, in the closing days of the legislative session for assistance in a program that is in jeopardy. I always marvel at the fact that when I want additional information, it travels across the Potomac to my office at really supersonic speed, sometimes at the speed of light.

We made requests of all three services for specifics to make sure that the information we were working with was accurate. We didn't want to work with inaccurate information. We have all of your submissions, and we want to update certain information. I must tell you that the other two services responded with alacrity, but the Air Force responded at about the speed of molasses, in fact some of the molasses hasn't even made it to the 14th Street Bridge yet.

On the basis that I am going to get this information officially, I am going to ask you this question, and we will give it to you in writing so that you don't have to take notes. I would like the Air Force to submit to me at the earliest possible opportunity the following information:

I would like to know for each of your Tactical Air Command wings, for each of your Strategic Air Command wings, for each of your missile wings of all types, the total officer and enlisted strength of those in a direct combat MOS, such as the pilots, the radar operators, the missile operators, and so forth. In addition, I'd like to know all of the people assigned directly to those wings, who are in a direct support role. I would also like for each of those functions, all of those Air Force independently numbered units that are in a direct support role to each of those three categories of Air Force commands which, of course, are the three major combat commands that you have.

I am sure that that is available. Somehow we just couldn't quite get it in time to confirm our figures. I would appreciate it if you could get that for me. Thank you.

SUPPORT CREWS

Secretary ORR. Could I ask a question, Senator. All of the crews that work on our planes are support crews.

Senator RUDMAN. They are direct support, Mr. Secretary.

Secretary ORR. Just so we understand.

Senator RUDMAN. Mr. Secretary, I fly a little old Beechcraft Bonanza, and I am going to tell you that that mechanic who gives it its 50 hours, as far as I am concerned is direct support.

Secretary ORR. That is what I wanted to be sure.

Senator RUDMAN. Absolutely.

[The information follows:]

DIRECT SUPPORT PERSONNEL

(Numbers in thousands)

Activity	Direct combat ¹	Direct support ²
Tactical Air Command	44.7	26.9
Strategic Air Command:		
Aircraft	45.8	27.7
Missile	11.3	6.9
Ground-launched Cruise Missile	4.2	3.3

¹ Direct combat includes aircrews/missile crews, life support, command, operations staff, wing intelligence, weapons systems security, and base level weapons systems maintenance.

² Direct support includes base operations, real property maintenance, and medical.

SUPPORT OF MODERNIZATION PROGRAMS

Senator STEVENS. Senator Johnston.

Senator JOHNSTON. I have no further questions.

Senator STEVENS. Following on Senator Rudman, and I want to assure my good friend and all concerned that we are going to work together, because I think he has the right approach in the sense of

trying to find a way to support modernization. If that message isn't getting across to DOD, then they are misunderstanding Warren Rudman in my opinion. There are going to be cuts, and the only thing we can do is find a way to channel those toward the place where they do the least damage.

REDUNDANCY IN SUPPORT STAFF

Having said that, one thing that bothers me, and I want to ask each one of you, aren't there instances where that administrative, nonreadiness support staff have been required by acts of Congress in the environmental, in the audit, in the inspection, or other functions?

In other words, hasn't Congress imposed upon the Air Force a redundancy in support staff to take care of considerations that are really nonreadiness, nonpure defense functions?

Secretary ORR. We will supply that for the record. I think the obvious answer is that there are probably some, Mr. Chairman.

I have tried very hard since I have been Secretary of the Air Force not to emphasize pointing my finger somewhere else. I have enough responsibilities, and it doesn't help me to go say, "I have extra people because you have asked me for extra reports." I suppose that, yes, we have people that were requested that we probably would prefer not to have because we have functions that don't directly relate to our mission.

[The information follows.]

REDUNDANCY IN SUPPORT STAFF

Increased Air Force staff requirements caused by work directed by Congress fall in essentially two categories:

The first category is programs which necessitate long-term functions and continuing workload. This includes environmental protection, federal procurement, and financial management. The following Federal Environmental Statutes result in increased workload that is not purely Defense related. While making no judgement on the national need for the programs, this workload does affect all levels within the Air Force.

- Clean Air Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Federal Water Pollution Control Act
- Marine Sanctuaries Act
- National Environmental Policy Act
- Noise Control Act
- Occupational Safety and Health Act
- Resource conservation and Recovery Act
- Safe Drinking Water Act
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- Toxic Substance Control Act
- Used Oil Recycling Act of 1980

Federal Procurement Laws include federal socioeconomic programs aimed at improving conditions, favoring certain groups, protecting the environment, or accomplishing other non-Defense objectives. The following statutes adversely impact the Air Force through direct administrative requirements as well as higher wages and prices.

- Walsh-Healey Act
- Davis-Bacon Act
- Service Contract Act of 1965
- Contract Work Hours & Safety Standards Act
- Fair Labor Standards Act
- Buy American Act
- Berry Amendment
- Convict Labor Act
- Miller Act

Financial Management Laws directly contribute to additional workload and staff requirements.

- Cash Management-this includes the Prompt Payment Act
- Federal Managers Financial Integrity Act 1982
- Commercial activities analysis required by the Defense Authorization Act of 1981
- Debt Collection Act of 1982

Acquisition Reporting required by the Nunn-McCurdy legislation

Independent Cost Analysis mandated by the FY 84 Authorization Bill

Arms Export Control Act. This act requires a high degree of administration of Foreign Military Sales (FMS) cases

The second category includes studies and reports which do not generate long-term programs; however, they do dictate considerable workload on a recurring basis. For example, the required materials for Congressional financial justification have grown over 200 percent in 6 years. This requirement has impacted on management headquarters activities and other financial management overhead functions. That recurring workload is caused by directed studies, plans, and reports. Examples from the Second Session of the 98th Congress are:

Study of methods of providing relief to former spouses not presently covered under the Former Spouses Protection Act

Report on military confinement procedures and parole criteria

Study and report on the safety investigation privilege for aircraft/missile accident reports

Study on medical malpractice in the military

Study on the transfer of the AF Space Division to the AF Space Command

Report showing specific budget activities adjusted in response to committee audit reductions

Establish a pilot program for reverse engineering of spare parts on a contract basis in fiscal year 1985

Report on whether modified ROTC program succeeds in expanding the recruiting base without lowering the quality of the officer product

Report on the results of a review to replace current accession methodology for women with a demand methodology

Additionally, the required materials for Congressional financial justification have grown over 200 percent in 6 years.

This requirement has affected management headquarters activities and other financial management overhead functions.

AUDIT STAFFS

Senator STEVENS. I am not pointing my finger either. I am just saying, I think we ought to identify the problems. If my friend says that he wants to reduce the administrative, and take the hits that are coming in the areas that are really soft as far as readiness is concerned, I think we ought to look to a certain extent and see what the consequences are.

Will it mean, for instance, that the audits—You don't do your own audits any more, do you?

Secretary ORR. Yes, we have a large audit staff, as well as the DOD audit staff.

Senator STEVENS. You have the Defense Audit Agency, too, don't you?

Secretary ORR. That is the Defense Audit, yes.

Senator STEVENS. That is beyond yours?

Secretary ORR. Yes, they are not ours.

Senator STEVENS. Then you have some people who have to interface with them?

Secretary ORR. Yes, sir.

Senator RUDMAN. If the chairman would yield for 1 minute, I would like to simply say that I have a list of congressionally imposed offices in all three services that have been imposed as the requirement by acts of Congress. The most obvious, of course, was one that I was astounded to find in my research, I found that you have a Defense Equal Opportunity Institute. I hope that it is not commanded by a four star Air Force general, General Gabriel.

General GABRIEL. No, a colonel.

Senator STEVENS. Beyond the identifiable functions, I think you will find that some functions are required. You have people that interface with the Defense Audit Agency that are not performing audits, but they are communicators between the two audit agencies, right?

Secretary ORR. Yes.

Senator STEVENS. This is as a result of having created an independent Defense Audit Agency. You have people interfacing with the separate command structures we have over there now at DOD, and you have to worry about them. You have the Central Command, the Pacific Command, and all the rest, and you have groups to interface with each one of them; right?

General GABRIEL. Right.

Senator STEVENS. Some of those were created by acts of Congress. They were not created by the Military Joint Chiefs of Staff.

I think that as we go, that is what I told my friend, I don't think they automatically read out that you can take the reductions in the areas where he would intend that they would go, and that is what we have to make sure as we go into this.

Senator JOHNSTON. Would the chairman yield?

Senator STEVENS. Yes, sir.

SERVICES RESPONSE TO SENATOR RUDMAN'S PLAN

Senator JOHNSTON. I am not sure that I followed all the questions, but has the question been asked that you furnish in writing a response to Senator Rudman's plan, so that you analyze how you

would carry it out if you carry it out in the way that you think is best. If in the analysis of that, you find that it doesn't work, have you been asked to provide alternatives as to how it might work?

Senator STEVENS. I might say to my friend, I am not sure that Senator Rudman's plan is that specific yet that he can as for that response.

Senator RUDMAN. If the chairman would yield.

Senator STEVENS. Sure.

Senator RUDMAN. I have asked each of the Service Chiefs and the Service Secretaries to respond in detail. At the time that I went public with the plan, I made sure that the Service Secretaries and the Secretary of Defense had a copy of that plan in their office before I made it public. I believe it was there, and I am sure that General Gabriel has people looking at it. I would like an answer of that type also.

Senator JOHNSTON. I would like to get a copy of that as well.

Senator RUDMAN. The subcommittee, then, joins in the request for a response to Senator Rudman's plan, and we want to assure you that it is coming from the direction of trying to deal with the scope of the problem.

Senator JOHNSTON. Also to suggest ways that it could be made to work, if his plan is unworkable, if that is not too much to ask.

Senator STEVENS. I am not sure that they are at liberty to give you that because I think they are under instructions to defend the President's budget. So it is going to be an interesting exercise.

[CLERK'S NOTE: The Air Force is preparing the response for Senate Appropriation Committee on Senator Rudman's proposal. The response will be submitted on 20 March 1985.]

Senator STEVENS. General, I have a series of routine questions, some of them are not totally routine, but they are better answered for the record.

THREE-YEAR BUDGET

I want to tell you, I indicated that I was late because I came from a meeting where we are still discussing in the long continuum of budget explorations, as we call them, what to do about defense as far as this budget is concerned.

It is very plain to all of us who support modernization that there has been a basic error made in terms of past negotiations on the budget.

In 1984, I was present when we made an agreement for a three year period, 1985, 1986, and 1987, the only trouble was that 1986 and 1987 were not put into the law, 1985 was the only thing that went in. We are dealing with the question now of dealing with a 1986 budget, and that is supposed to go out to 1987 and 1988, but they are only wanting to put in 1986 into that.

I can even go back further. We were in the same conversation in 1981, Verne, you were part of it then. The Department of Defense has in the past opposed putting into an act of Congress a 3-year budget structure. Had we put into the law in 1984 a structure for 1985, 1986, and 1987, we wouldn't be having the 1986 arguments now.

Similarly, had we put in 1983 the agreements for 1985, we wouldn't have had the long argument we had last year that ended, as you know, in the continuing resolution governing substantially all of the Federal expenditures.

What I want to suggest to you is that I think that you, above all the other agencies in terms of the procurements that you are embarked on now, and the way that the costs are ramping up in your procurement lines, B-1 coming into real dollars, the fighters are coming into the dollars, the missiles are coming into real dollars, yet they were authorized and budgeted in years gone by, and now they are going to be subject to attack.

I think you should review your past policy of opposition, not just yours but the whole departments, to a 3-year budget established by law, and not on the basis of assumptions that these will be the baseline figures for the out-years as far as defense is concerned.

The Rose Garden figure for defense in 1985 was \$297, and we achieved \$292. The Rose Garden figure for 1986 was, to my memory, \$346 or somewhere around there—It was \$326? No, it was more than that. It is down to \$314 now, and it was substantially in excess of that. It sprung out of the \$314 figure originally.

My point is that if we fight this battle now on the basis that we are going to set up a goal of 4 percent of the GNP for the deficit in 1986, 3 percent in 1987, and 2 percent in 1988, and we make the agreement as a 3-year continuum, we ought now to get defense locked into those figures by law, and not to further renegotiations if the others don't achieve their goals.

That is really the situation and my feeling is that if we are asked now to make substantial cuts in defense because the deficit figure has proven to be understated, the interest cost figures were understated, the entitlement figures were understated in my judgment, I think we ought to get a 3 year budget. I would urge you to take a look at that and talk to the Secretary about it. Senator Goldwater, myself, and others will be visiting with you.

SUBMITTED QUESTIONS

There are a number of questions which committee members have to be submitted to you for response for the record. They will be inserted at this point.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

IMPACT OF BUDGET FREEZE

QUESTION: Secretary Orr and General Gabriel, I do not need to tell you this year that the most popular topic of budget conversation is how to cut defense. We have been hearing proposals ranging from a budget authority freeze — a spending level that would impose a three to four percent program reduction—to less severe reductions involving more limited reductions involving more limited real growth.

First, have you analyzed the impact these kinds of budget cuts would have on Air Force programs? What would be the impact, for instance, of a budget authority freeze.

ANSWER: The Air Force has taken a very close look at "freeze" proposals which either hold budget authority to the FY 85 level (nominal freeze), or allow no real growth from FY 85 to FY 86. The nominal freeze would result in a four percent real decline at a time when GNP is growing at seven percent. Both alternatives would equal large cumulative losses in programs from FY 86-90 that cannot be recouped. Though we have not identified specific programs that would be impacted, the more obvious total impact on combat capability would be that both alternatives would delay essential modernization of strategic deterrent forces and delay needed improvements in readiness and sustainability. Specifically, spares and tactical munitions, improvements would be delayed. The wartime airlift shortfall which impacts critical Army and Marine deployment requirements would be prolonged. Weapon systems development would be disrupted causing increased costs and prolonging dependence on less effective systems. Essential combat manpower needs and the effectiveness of the volunteer force would be jeopardized. A freeze of any sort would also counteract NATO objectives for minimum real growth, jeopardize US leverage for arms control negotiations and transmit a major change in US resolve to allies and adversaries.

AFFECT OF MANPOWER LEVELS ON PROGRAMS AND PLANNING

QUESTION: With the current mood in Congress, it also seems highly unlikely you will get any of the nearly 10,000 military end strength increase that you are requesting, nor any civilian manpower increase. How will that affect your programs and planning?

ANSWER: Significant manpower reductions would cut operations, maintenance, and support for new weapon systems and expanding force structure; cancel programs designed to improve readiness, sustainability, and effective resource control; and further strain support base with the associated impact on force and installation management, operating effectiveness, personnel readiness, morale, and retention.

These reductions would damage readiness programs and severely strain the ability to support our forces. The Air Force would make every attempt to field new and expanding force structure; however, mission capability, and therefore national defense, would be degraded.

PERSONNEL DECREASES

QUESTION: There are those who think all of the military services and the Pentagon ought to take personnel decreases. The idea is to streamline the bulging bureaucracy and to thin out the number of support-type positions that are not considered essential to military operations. Why can't that be done?

ANSWER: Productivity gains have been made. During the period FY 81-84, the Air Force deleted requirements for 3700 people by productivity enhancements in capital investments. Under OMB guidance over 7200 positions were studied for possible contract positions; 5300 were eliminated due to increased efficiency or converted to contract; and 1900 remained in-house because it was more cost effective. The moderate remaining AF military growth, 1.6 percent increase for FY 86, is the minimum necessary for force modernization and improved readiness as shown by the following detailed list. It is important to note that no growth is planned for AF headquarters staff and since FY 80 we have reduced Management Headquarters staff by eight percent while Air Force manpower grew seven percent. All FY 86 increases are programmed for field activities.

FORCE STRUCTURE & MODERNIZATION

- STRAT ACFT/FLYING (B-1B, ALCM, KC-135)	+2000
- ICBM MODERNIZATION	-700
- AIR DEFENSE AIRCRAFT (F-106 OUT: F-15 IN)	-400
- AIR DEFENSE RADAR (PAVE PAWS, OTH-B)	+300
- TACTICAL RECCE (TR-1)	+300
- TACTICAL FORCE STRUCTURE (F-15, F-16, KC-10)	+1400
- TACTICAL MISSILES-(GLCM)	+2000
- AIRLIFT (C-5B)	+600
- RESERVE FORCES ADVISORS	-100
- RESCUE & SPECIAL OPERATIONS	+400
- CLASSIFIED PROGRAMS	+400
	+6200

READINESS AND SUSTAINABILITY

- CHEM-BIO DEFENSE	+200
- AIR BASE SURVIVABILITY	+200
- AERIAL PORTS	+300
- MEDICAL WAR READINESS AND HEALTH CARE	+1500
- IMPROVED UNIT MANNING	+2600
- PACIFIC BASING STRUCTURE (MISAWA, OKINAWA)	+200

+5000

COMMAND AND CONTROL

- SATELLITE COMMUNICATIONS	+300
- CSOC SATELLITE OPERATIONS	+500
- NAVSTAR/GPS GROUND STATION	+100
- C ³ I IMPROVEMENTS	+700
	+1600

PERSONNEL DECREASES (CONT'D)

ECONOMIC INITIATIVES

- MILITARY TO CIVILIAN CONVERSIONS	
- NON-CRITICAL SKILLS	-2600
- FOR COST COMPARISON (CONTRACT) STUDIES	-1600
	-4200

INVESTMENT IN THE FUTURE

- TRAINING	
- UNDERGRADUATE FLYING TRAINING	+200
- SKILL TNG, CTS, AECF	+400
- R&D PROGRAM REQUIREMENTS	+200
	+800

TOTAL MILITARY REQUIREMENTS

+9400

LEVELING OFF OF PRODUCTION RATES

QUESTION: Your budget includes substantial production increases for aircraft, missiles and other hardware. Leveling off your production rates would surely be a part of any substantial budget cutting scenario. Can you discuss the impact of a denial of production increases for aircraft and major weapons?

ANSWER: Before a decision is reached to limit production on any specific program, several factors must be considered on a case-by-case basis for each program. First, a program may be in the early stages of production and ramping up to the optimum rate of production. Failure to increase production to the optimum rate would result in significant fixed costs being applied against fewer quantities. This could result in a unit cost breach per the Nunn-McCurdy Amendment. Secondly, programs may be under a multi-year procurement contract, such as the KC-10A, or a firm fixed price contract, such as the C-5B, where procurement quantities are predetermined for the life of the program. Failure to exercise the contract options for any fiscal year as specified would result in significant cost penalties for the entire program. Finally, procurement quantities for any given program are determined by several factors. These include, but are not limited to, affordability, the mission being served, and the threat which must be met. Limiting production in any given year would not reduce the total buy requirement for the program and would delay achieving required capabilities. Furthermore, limiting production in FY 1986 would result in significant cost increases in the outyears and, combined with other programs, pose additional affordability issues.

FIGHTER PRODUCTION LEVELED OFF AT CURRENT RATE

QUESTION: The Air Force wants to attain forty tactical fighter wings and sustain the force at an acceptable age. To do this you are proposing production of roughly 260 aircraft a year. If fighter production were to be leveled off at current rates, how would this affect your objectives?

ANSWER: As outlined in the Tactical Fighter Roadmap, the Air Force must procure 234 aircraft each year just to maintain our present 36 wings at an acceptable average age. The FY 85 fighter procurement rate of 192 acft/yr (42 F-15, 150 F-16) if continued, is inadequate even to sustain the current 36 wing force. In particular, leveling fighter procurement at current rates would stop all growth toward the 40 tactical fighter wing objective, seriously age our current force and essentially delay our efforts to modernize the 36 wing force. These results are particularly serious when considering the large block of Vietnam era aircraft reaching normal fleet retirement age during the next five years.

IMPORTANCE OF THE TWO FORCE LEVEL OBJECTIVES

QUESTION: Which of your two force level objectives do you consider most important—expansion to 40 wings or sustained modernization?

ANSWER: Air Force goals of fighter force growth and modernization are interdependent and considered equally important. Both are required if we are to have a tactical force of sufficient quantity and quality to meet the threat. However, while even 40 wings remain well short of the force size needed to achieve our national security objectives with a reasonable assurance of success, the Air Force accepts this number as a fiscally constrained and attainable objective. Force modernization thereby becomes essential to help compensate for a quantity lower than we require to meet the threat completely.

FIGHTER PRODUCTION TO SUSTAIN CURRENT FORCE LEVEL

QUESTION: What would be the impact of holding the Air Force to its current level of 36 tactical fighter wings? And what kind of fighter production would be required to sustain the current force level?

ANSWER: The Joint Chiefs of Staff have determined that some [deleted] are required to meet our national security objectives with a reasonable assurance of success. Since fielding [deleted] is fiscally unattainable in a peacetime environment the DoD has adopted 40 tactical fighter wings as a fiscally constrained, interim objective to keep pace with the growing threat. Limiting the Air Force to its current number of tactical fighter wings would further exacerbate our numerical disadvantage while the Soviets continue to close the technological gap.

The Air Force needs to procure 6.5 aircraft yearly for each wing in order to sustain the force with an acceptable average age of about 10 years. Therefore, to sustain a force of 36 tactical fighter wings requires a constant procurement of 234 acft/yr. Current procurement is inadequate to maintain even the 36 wing force at acceptable average age and modernization levels.

EFFECTIVE EXECUTION OF 1986 BUY OF M-X PEACEKEEPER

QUESTION: The Air Force is seeking \$4B for production of 48 M-X Peacekeeper missiles in fiscal year 1986. Meanwhile, Congress is expected to decide next month or soon thereafter on whether to

release \$1.5B for procurement of 21 of these strategic missiles in the current fiscal year. With all the delays in the 1985 program, can you effectively execute a 1986 buy of 48 missiles?

ANSWER: Yes. The request for missile procurement in FY 86 is \$3.2B for 48 Peacekeeper missiles, not \$4B. This 48 missile buy can be executed effectively if the FY 85 funding is released by the Congress. The FY 85 missile production contracts are currently being negotiated and will be awarded immediately following release of the missile procurement funds. This will enable the production line to proceed without interruption and allow for a smooth transition from the FY 85 planned buy of 21 missiles into the larger and more efficient FY 86 production buy.

IMPACT IF 1985 FUNDS ARE NOT RELEASED

QUESTION: What would be the impact on your 1986 program if the funds for 1985 are not released?

ANSWER: Procurement of Peacekeeper is essential to maintaining a modern Triad, to preserve a strong deterrent, to offset the Soviet hardening program, and to provide a strong incentive for arms reduction agreements. Peacekeeper redresses the growing imbalance between US and Soviet strategic forces. Non-support of Peacekeeper would significantly undermine the ability of our negotiators to achieve our primary objective of significant reductions of strategic nuclear weapons. Failure to release FY 85 Peacekeeper funds would have a severe impact.

First, there would be a production break between the 21 FY 84 missiles and the 48 missiles planned in FY 86. This would delay the deployment schedule, resulting in at least a six month slip in the Full Operational Capability (FOC) date.

Second, the production delay would result in erosion of the missile production capability, unless supplemental funds are appropriated in FY 85 to maintain a warm production line and preserve the ability to restart production in FY 86. The "warmline" costs for the remainder of FY 85, assuming production restart in early FY 86, have been estimated at \$650M of which \$150M is for continued basing support for the 21 missiles procured in FY 84.

Even with such warmline funding, the restart capability would be uncertain. With no hardware being produced, degradation of sophisticated production processes is inevitable. Potential loss of one or more key vendors or suppliers during the production break could cause unexpected replacement delays and/or recertification costs.

Finally, program stretchout introduces inefficiencies which would raise total program costs and ultimately breach the program cost baseline. These inefficiencies would result from postponing the economies of full production, and the corresponding stretchout of the basing, deployment, and operational test program. Though the deferral would avoid spending about \$850M of the \$1.5B needed to complete the FY 85 production, more than \$1.65B would need to be added back in FY 86 and beyond for the 21 deferred missiles and stretchout costs. The net result would be an increase in total program costs of over \$800M (\$-TY).

M-X PRODUCTION TIMETABLE AND TARGET FOR IOC

QUESTION: How have the current delays in the M-X program affected your overall production timetable and your target for initial operating capability of the M-X?

ANSWER: The delay in production of six missiles in FY 84 and 19 missiles in FY 85 has not impacted the overall Peacekeeper deployment schedule. However, the SAC Operational Test and Evaluation (OT&E) program start has been delayed two years. This delay impacts SAC's assessment of the reliability and performance of the deployed force for application in the Single Integrated Operational Plan. All other elements of the production program are on schedule to support the Initial Operational Capability of 10 missiles on alert by December 1986 and Full Operational Capability (FOC) by December 1989.

AFFECT OF A NEGATIVE VOTE IN CONGRESS ON MX

QUESTION: Your statement indicates a negative vote in Congress on MX production would damage our bargaining positions in the upcoming Arms Control talks at Geneva. Could you expand on this position?

ANSWER: Procurement of Peacekeeper is essential to maintaining a modern Triad, to preserve a strong deterrent, to offset the Soviet hardening program, and to provide a strong incentive for arms reduction agreements. Continued support for Peacekeeper will demonstrate a strong US resolve to redress the growing imbalance between US and Soviet strategic forces. A demonstrated resolve by the Congress lets US representatives to the arms control negotiations negotiate from a position of strength. Non-support of Peacekeeper would significantly undermine the ability of our negotiators to achieve our primary objective of significant reductions of strategic nuclear weapons.

GROWTH OF US TROOPS IN EUROPE

QUESTION: Last year, in its continuing effort to control the growth of US troop strength in Europe, the Committee directed the Air Force not expand its manpower in Europe. Now I understand your forces are increasing by about 3,000 in the current fiscal year. What is the situation?

ANSWER: The FY 85 Department of Defense Authorization Act sets in law the total number of US forces in Europe at 326,414. Current projections show Air Force growth for FY 86 includes converting F-4s to F-15/16s, expanding the TR-1 program, and installing Precision Location Strike System (PLSS) equipment, SATCOM nets, and war readiness increases. The result of these actions, after other program offsets, adds approximately 650 military spaces to Europe. In addition, manpower to support the GLCM program brings the total planned military growth to approximately 2,600.

Currently the Secretary of Defense and the Commander in Chief, Europe, are apportioning the force ceiling between the services, and determining actions necessary to comply with the law. We are also vigorously pursuing ways to reduce military needs, including the use of civilians when it is more appropriate. Recognizing the concern of Congress to reduce US presence in NATO Europe, programmatic actions have reduced Air Force FY 85 strength in Europe by 475 spaces, associated with three Tactical Air control units and two Air Base Ground Defense units.

MANPOWER NEEDS IN EUROPE

QUESTION: The Committee recognizes that the Air Force needs manpower to sustain the positioning of ground launch cruise missiles and other force changes in Europe. But why can't this requirement be

absorbed by offsetting reductions elsewhere and by the use of improved management?

ANSWER: Within the ceiling limitations addressing DoD forces in Europe, USCINCEUR determines force mix, priorities, and required off-sets. We are working within the context of theater priorities to use existing resources to support critical modernization programs. The Air Force has offset GLCM and other force structure changes to the maximum extent possible by realigning authorizations to priority programs as determined by USCINCEUR. We have also taken internal management actions to offset required growth by improved productivity through capital investments and more effective operations. Additionally, we have decreased our support base to offset shortages in mission requirements. However, we can lower our baseline only so much since many of our support specialists fill wartime needs. Further cuts may restrict our ability to satisfy mission demands during hostilities.

FORCE EXPANSION IN EUROPE

QUESTION: What is driving your continued force expansion in Europe? Aside from GLCM, what other force increases is the Air Force planning for Europe?

ANSWER: The additional Air Force programmed force increases are tied to the conversion from F-4s to F-15s and F-16s, aircraft maintenance increases, installation of Precision Location Strike System (PLSS) equipment, expanding command and control communication capabilities through installation of SATCOM nets, Air Base Ground Defense expansion, and medical war readiness increases. The result of these actions adds approximately 650 Air Force spaces to Europe.

NEED FOR MORE MANPOWER POSITIONS IN FY 86

QUESTION: Since the beginning of 1981, the Air Force has added 56,000 civilian and active duty military personnel. In the 1986 budget, the Air Force proposes to add 10,000 military and 9,000 civilians. Total manpower added through 1986 would be 75,000, or about 9.5 percent.

Since the beginning of 1981, Air Force force structure has grown very modestly. Primary assigned aircraft in units for strategic bombers and interceptors, tactical fighter and attack aircraft, and airlift have increased by 82 aircraft, or about 2 percent. Strategic missiles have declined by 43, but this has been offset by the deployment of GLCM.

Between 1985 and 1986 total aircraft in the categories mentioned above increase by 20, or less than one-half of one percent, and strategic missiles decline by 12. Notwithstanding these very modest force structure changes, the Air Force proposes to add 19,000 military and civilian personnel. Please explain the need for this personnel increase.

In addition to military manpower increases, the Air Force is budgeting for 10,000 more civilian positions in FY 1986. Considering the labor saving programs funded by Congress since 1980—equipment modernization, automated systems EDP equipment, etc.—and all the current contracting-out for support services, why is this increase needed?

ANSWER: Between FY 81 - 85 aircraft and missile inventories have increased over 20 percent while manpower increased just over 5 percent. But, force structure increases for traditional Air Force

missions make up only a small percentage of the required manpower growth.

We've also added people to areas which contribute directly to using these forces more effectively. Aircrews were added for C-5s and C-141s contributing to a 64 percent increase in airlift capability from these aircraft. Manpower was also added to areas like aircraft maintenance, chemical warfare defense, airbase damage repair and defense, medical care, intelligence, and communications. However, to a large degree, it is the addition of new missions and capabilities which drive the need for more manpower. Since FY 80, we have added missions like the European Distribution System (EDS), EF-111, TR-1, GLCM, and ALCM. Additionally, resource management initiatives to control the cost of spares, increase competition, and otherwise improve the acquisition process have also required added manpower.

To support these new capabilities, modernize the force, and remain below the congressional manpower ceiling, we have increased the rate of transfer of missions to the Air Reserve Forces, increased contract services, and undermanned selected missions.

The FY 86 manpower request represents modest growth and provides only the minimum manpower needed to perform the total Air Force mission.

	<u>Military</u>	<u>Civilian</u>
FORCE STRUCTURE AND MODERNIZATION	+6200	+2600
B-1B, F-15, F-16, KC-10, TR-1, C-5B, ALCM, KC-135 Flying Hrs, PAVE PAWS, PLSS, Rescue, Spec Ops		
READINESS AND SUSTAINABILITY	+5000	+3800
Chem-Bio Defense, Air Base Survivability, Aerial Port, Medical, Improved Manning, Pacific Basing Structure		
COMMAND AND CONTROL	+1600	+300
SATCOM, NAVSTAR, CSOC, C(3)I		
ECONOMIC INITIATIVES	-4200	+3100
Mil-to-Civ Conv., Cost Comparisons, Economies and Efficiencies		
INVESTMENT IN THE FUTURE	+800	+500
Training and R&D		
TOTAL REQUIRED GROWTH:	+9400	+10300

DIFFICULTY IN HIRING 10,000 MORE CIVILIANS

QUESTION: Don't you anticipate some difficulty in hiring 10,000 more civilians when you are proposing a five percent pay cut?

ANSWER: Hiring is dependent on many labor market variables—one being the applicants' perceptions of the government as a fair employer. If overall compensation is perceived as comparable to private sector compensation, then there should be little, if any, direct effect on recruitment.

FIVE PERCENT CIVILIAN PAY CUT/THREE PERCENT MILITARY INCREASE

QUESTION: Do you really think it is likely Congress will approve a five percent civilian pay cut and a three percent military pay increase?

ANSWER: The Administration's position on this issue is expressed in the budget which calls for a civilian pay reduction across all Federal agencies, not just DoD, to help reduce the deficit. The Air Force supports the Administration's program. The three percent increase in military pay is to ensure we sustain the recruiting and retention momentum necessary to achieve our national objectives.

AFFECT ON PROGRESS IF MILITARY PAY RAISE IS NOT APPROVED

QUESTION: Congress may be reluctant to approve any kind of military pay raise in the current budget-cutting climate. How will this affect Air Force programs, in your judgment?

ANSWER: It is difficult to predict what impact a military pay freeze will have on the entire spectrum of Air Force programs. However, we know from experience that when military pay is equitable and comparable with private sector pay, we are able to attract and retain the kinds and numbers of people necessary to fulfill our worldwide missions. As the economy continues to improve and military pay does not remain comparable to private sector wages, we will probably see our people being drawn to higher paying jobs in the private sector. The Air Force supports a three percent pay raise on 1 July 85 and a phased approach to eliminate the Private sector gap at the earliest possible time.

IMPROVEMENTS IN BENEFIT PROGRAMS

QUESTION: You make the statement, "We should not attack the retirement system that has long served us well in retaining quality people; we should not attack benefits like commissaries and exchanges that make a difficult life more bearable." Does this suggest there is no room for improvement in these benefit programs?

ANSWER: No. There is always room for improvement. We recognize our responsibility to use our resources as efficiently and effectively as possible, particularly in these times of large budget deficits. However, it is important to remember that these examples you cite are critical institutional supports. Our people have always been able to count on the military retirement system, our number one career incentive, as well as commissary and exchange privileges as stable supports that help them endure the rigors and difficulties of

military service, even while military pay and allowances have undergone caps and freezes. There is no doubt that the heavy losses we experienced in the late 70s would have been even more severe if it were not for these institutional supports.

Studies have shown repeatedly that government subsidy of the commissary system reaps large benefits in terms of morale, quality of life and retention. Although reductions in these programs may provide some up-front savings, we may not be able to afford the long-term consequences in terms of the reduction in the quality and experience of our force. These institutional programs translate into long term, stable dividends by providing the career incentive and supports we need to retain a high-quality, effective fighting force.

SCALE BACK ON COMMISSARIES

QUESTION: This Committee has suggested that taxpayer-supported commissaries and exchanges in metropolitan areas such as the District of Columbia are not really necessary. Is this considered an attack on the commissaries? Why shouldn't we scale back these kinds of operations?

ANSWER: Based on the Committee's past support we do not consider this an attack on commissaries. Commissaries are needed today to provide economic relief to the military member i.e., non-pay entitlement. The impact of denying military personnel assigned to metropolitan areas this vital entitlement by closing commissaries would circumvent Congressional intent. Costs of living in metropolitan areas are usually higher than in rural areas making the impact even more severe. Commissaries have been a part of military compensation since the mid 1800s. Commissaries are valued second only to the medical entitlement by military personnel, and any action to terminate commissaries would send the wrong signal to military personnel, particularly when the available manpower pool is diminishing. Retention in future years will be critical and the compensation package is vital to retention.

CONTRACTING OUT OPERATIONS OF CERTAIN COMMISSARIES

QUESTION: Last year this Committee proposed, on a test basis only, to contract out the operation of certain commissaries. Is this an attack on commissaries? Why shouldn't we look for more efficient means of operating these commissaries?

ANSWER: The Air Force totally supports any initiative that will result in more efficient commissary operations; however, we strongly feel that no savings would be realized by contracting out whole commissaries even on a test basis.

Such a test pre-supposes that a contractor's operation could be more efficient than the Air Force Commissary Service (AFCOMS). However, available indices of productivity and efficiency indicate AFCOMS is as or more efficient than commercial supermarkets.

To date no proposal for a complete store contract has been received from commercial industry that would generate the same savings of 20-25 percent and level of service as our in-house operations. Moreover, these savings are essential components of the military compensation package and quality-of-life.

We believe that no private concern, receiving only the current level of appropriations for AFCOMS CONUS stores, could operate under these conditions and make a profit.

This does not mean the Air Force has any objection to contracting out certain sub-functions of commissaries. Since 1979, we have used A-76 procedures to contract out selected labor intensive areas, such as shelf stocking and custodial services in 54 commissaries. We intend to add over 20 more stores this year, and are studying other non management and accountability functions to see if they would lend themselves to this concept.

MODIFICATION TO MILITARY RETIREMENT

QUESTION: The Grace Commission and the DoD Fifth Quadrennial Review of Military Compensation both proposed wide ranging modification of military retirement, but the Congress has yet to see any reforms proposed by the Department. Isn't there room for improvement without undermining the basic military retirement benefit concept?

ANSWER: Neither the Grace Commission nor the Fifth Quadrennial Review of Military Compensation's recommendations were endorsed by DoD because of a concern with the impact on our force structure, that is, our ability to attract and retain the quantity and quality of people we need. The Grace Commission recommendations ignored these force structure effects. Its recommendations would have dismantled the current military retirement system, reducing retired pay by 80-85 percent for typical retirees. Although the Fifth Quadrennial Review of Military Compensation considered these issues, we were concerned with the assessment of the impact on readiness.

The current military retirement system has already been significantly cut (about 13 percent) for people who entered active duty after 7 September 1980. The effects of this change on our career force has not yet been determined. Furthermore, cost-of-living allowance (COLA) caps and freezes on military retirement pay continue to be advocated and must be evaluated as to their impact on retention. These effects, coupled with the uncertainty over military pay, would make it unwise and potentially harmful to make further cuts in military retirement.

We believe the current system is cost effective when viewed within the context of the total military compensation system in providing us the right numbers of high quality people to serve in the military profession. We know the current system has and is serving us well in this regard. If we continue to modify the system and reduce retirement benefits further, we will most likely have to pay the price somewhere else--either in additional recruiting and training costs, special and incentive pays, or active duty pay.

STRETCH-OUT OF AMRAAM DEVELOPMENT PROGRAM

QUESTION: Tell us about the problems that have caused the AMRAAM development program to stretch-out by 21 months.

ANSWER: The AMRAAM full scale development (FSD) program is currently about nine months behind schedule; however, we expect the program to take about 72 months to complete (22 month stretch-out). The primary reason was an optimistic schedule negotiated and placed on contract in Dec 81. At that early time, both the Air Force and the Hughes Aircraft Company underestimated the complexity of the development effort. This schedule risk has now manifested itself as a real program stretch-out. Nonetheless, there are no technical "show-stoppers" in the program. Schedule delays to date are pri-

marily attributable to problems with the special test equipment (STE). Specifically, we underestimated the complexity of designing production level STE in the early stages of FSD. Also, the iterative process of designing STE at the same time the missile design is evolving, led to further schedule delays. The ultimate schedule stretch-out of 22 months recognizes the early delays and eliminates much of the schedule risk we believe was in the original program.

UPGRADING OF THE SPARROW MISSILE

QUESTION: Under the circumstances, is the Air Force giving any serious attention to the alternative of upgrading the Sparrow missile as an alternative to the expensive AMRAAM program?

ANSWER: At the direction of the Deputy Secretary of Defense, the Assistant Secretary of the Air Force for Research, Development and Logistics has established a multi-service/OSD Committee, which he chairs, to evaluate options for reducing AMRAAM production costs. A subset of this group is an AMRAAM Alternatives Review Committee. This sub group will assess alternatives in terms of performance, cost, and schedule. One of the alternatives being looked at is an upgraded Sparrow.

MAINTENANCE MAN HOURS C-5B/C-17

QUESTION: Your statement notes the follow-on C-17 transport will require only about one-third of the maintenance man hours that the C-5 requires. With operating costs so much cheaper, why are we ramping up C-5B production from 8 to 16 aircraft in lieu of a C-17 program start up?

ANSWER: Both the C-5B and C-17 are vital to the Air Force's airlift program. To begin dealing with current airlift shortfalls, the C-5B, now in production, provides near-term military airlift capability sooner than is possible with the C-17. The C-17, while not available as quickly as the C-5B, is the key to our long-term airlift program and provides inter and intratheater airlift capability at lower life cycle cost and with less manpower than any comparable alternative. The Air Force program will procure 50 C-5Bs through FY 87 and initiate C-17 production in FY 88. The C-5B procurement schedule was negotiated with Lockheed in a firm fixed price contract signed 31 Dec 82. The increase from 8 to 16 aircraft in FY 86 simply reflects the contract schedule. The C-17 program is underway with Secretary Weinberger approving start of full scale development on 15 Feb 85.

F-16 FIGHTER

QUESTION: Your request for the F-16 fighter is for \$3.4 billion to increase production from 150 to 180 aircraft under a multi-year Contract. What kind of savings do you anticipate through the proposed production increase?

ANSWER: A savings of \$297,000 per aircraft can be attributed to increased production of the F-16.

INVENTORY OF CHEMICAL WEAPONS

QUESTION: You are again seeking production funds for the Bigeye chemical bomb—\$22 million. The thrust of the program is to modernize existing stockpiles. What is the current Air Force inventory of chemical weapons and what is their general condition?

ANSWER: The Air Force inventory of chemical weapons consists of (deleted). The condition of TMU/28 is 1018 unserviceable but repairable. These tanks will be made serviceable on receipt of modified cutter kits in July 1985. The condition of MC-1 is: (deleted).

The TMU/28 must be delivered by the F-4 in a (deleted). The MC-1 chemical weapon agent is (deleted). The Bigeye is a positive step towards filling the above voids. It is safer because of its binary design features, deliverable with current aircraft/tactics, and will resolve logistics problems of storage and handling.

BIGEYE PROGRAM

QUESTION: What would be the impact if Congress again refused to fund the Bigeye program? Where does that leave us in relation to Soviet capabilities?

ANSWER: One of the most important things we can do to deter chemical warfare is to establish a chemical retaliatory capability. The asymmetry in chemical munitions our forces face is extremely dangerous, and may negate our conventional force improvement efforts, thereby lowering the nuclear threshold. Our lack of a credible retaliatory chemical weapon compatible with modern aircraft and delivery tactics, not only jeopardizes the most recent improvements we've made in conventional weaponry, but invites the one sided use of chemical weapons against us. By modernizing our chemical retaliatory capability we can best deter chemical war.

SPACE SHOTS FOR ASAT

QUESTION: You are budgeting \$285.9 million for R&D and procurement of the Antisatellite (ASAT) System for 1986. Where do you stand on the three space test shots permitted by Congress last year?

ANSWER: The Air Force currently plans to conduct two intercepts against instrumented test vehicles (ITVs) during the [deleted].

ADDITIONAL TESTING IN SPACE

QUESTION: If most or all of the space tests are reasonably successful, what additional testing would be needed against objects in space?

ANSWER: The Air Force has planned for a total of ten ASAT intercept tests against the instrumented test vehicles (ITV) in a combined Development, Test & Evaluation/Initial Operational Test and Evaluation program. The test program is structured so that the flight test mission profiles are increasingly difficult, thereby more closely simulating operational conditions. The operating commands, Space Command and Tactical Air Command, are investigating the need for a Follow-on Operational Test and Evaluation program. No decision has been made whether this program would involve intercept tests.

However, the production buys of missiles are structured such that there are enough missiles to conduct one operational training/readiness mission per year, once the system becomes operational.

INCREASE IN ASAT PROGRAM COSTS

QUESTION: We understand the bid for the 1985 and 1986 production lots for ASAT came 250 percent over budget estimates. Aside from Congressional delays, what is driving up the program costs?

ANSWER: Program costs have not been driven up since we have not yet negotiated a contract price. The contractors' initial proposals for lots 1 and 2 (FY 85 & 86) of the ASAT production missile buy are significantly higher than the Air Force has budgeted. There appear to have been areas in the request for proposals which resulted in contractor misinterpretation. The contractors have been asked to state their assumptions and fully justify their cost estimates. This fact-finding phase should be completed by late March or early April 1985. Subsequently, a contract price will be negotiated.

SPACE SHUTTLE FOR MILITARY PAYLOADS

QUESTION: You are increasing to \$186 million your R&D effort for an expendable launch vehicle (ELV) as a complement to the Space shuttle for military payloads. This initiative became controversial last year, largely due to opposition from NASA. What is the status of the Department's joint report with OMB and NASA on this issue which was supposed to be submitted last January 15?

Is the administration getting its act together on this program, or will we have another NASA-Air Force battle over the need for ELVs?

ANSWER: NASA and the Air Force have reached agreement on the Complementary ELV issue. This agreement is formalized in the National Security Launch Strategy signed by the President on 25 February 1985, which directs the Air Force to buy ten expendable launch vehicles to be launched between 1988-92. These vehicles, Titan 34D7s, were selected following a competition completed in late February 1985, with a Space Transportation System derivative. The Secretary of Defense, in early February 1985, informed the Chairmen of the Appropriations Committees that the Department's Joint ELV report with OMB and NASA was being coordinated and would be transmitted as soon as the administration completed coordination. The report was sent to Congress on 28 February 1985, and it fully discusses and justifies the need for the DoD Complementary ELV system included in the FY 1986 President's Budget Request.

QUESTIONS SUBMITTED BY SENATOR KASTEN

CHEAP, SIMPLE, AND MASS PRODUCED WEAPONS

QUESTION: In the Wall Street Journal of 15 February there is a very interesting story on the development of the Sidewinder missile, "One of the Nation's potent, most reliable and simplest weapons. The thrust of the article is such a weapon could not get built today, because in the words of the Sidewinder inventor, William B. McLean, "The total acquisition process rewards the design of complex and

expensive systems and penalizes work on simpler and therefore less expensive ones.

In his new book, *The Pentagon and the Art of War*, Edward Luttwak provide some insight into why this might be the case. He observes that in terms of a ratio to enlisted men, there are six times as many Colonels/Captains and Lt Colonels/Commanders on active duty today as there were before the end of World War II. He points out that those officers must be kept busy, and that they are absorbed by a process in which the military bureaucracies (keep expanding, not merely by increasing the size of each command, headquarters department, or bureau, but also by subdividing their functions to absorb the surplus officers in many new separate offices. He uses as his example process the Air Force Systems Command, which as he observed in his testimony this week before the budget committee, has produced only two fighters in over twenty years.

I think Mr Luttwak is on to something, but I would like your explanation to why we have such difficulty in this country designing weapons which are cheap, simple and which can be mass-produced.

ANSWER: The most important consideration has to be what is required to be successful in combat. Since weapons systems must be designed to meet the threat of our potential adversaries in combat, they are not necessarily easy to design, cheap, or simple. More specifically, let's look at our fighter force.

USAF planners structure future fighter buys by assessing the threat. Soviet fighters are not only growing in numbers, but improvements are being made in all weather missiles, long range radars, and low altitude capabilities. The expected threat is large, diverse, sophisticated, and gaining in capability. To counteract this threat, our fighter systems must continue to be designed and produced with greater offensive and defensive capabilities. Our experience tells us that we can develop and produce quality systems that are sophisticated and also reliable and maintainable. The F-15 aircraft for example, is a combat proven, high quality, air superiority fighter that also has an admirable record for reliability and maintainability.

On the whole, today's threat has driven us toward more complex weapon systems. However, our acquisition policy is to require weapon systems to be operationally suitable, economically producible and field supportable. We encourage less-complex approaches by streamlining our contract requirements and improving reliability and maintainability in design solutions.

DISBANDING OF THE B-1B PRODUCTION LINES

QUESTION: Your statement of February 7 indicates that B-1 can serve to keep ATB costs down by exerting pressures that will prove advantageous to Air Force negotiators. But it is my understanding that by June, 1988, production of the B-1B will be completed; the array of contractors, subcontractors, and suppliers will have been disbanded; and the trained labor force will be scattered to the four winds.

Under these circumstances, it seems to me that re-starting the B-1 production line might be extremely expensive—a prospect that won't lend much weight to the Air Force negotiators.

I would appreciate, Mr. Secretary, an Air Force insert to the Record of this hearing that provides estimates of the following:
—The extent to which the present B-1B production line will overlap

ATB development and production and provide meaningful competition within the strategic bomber program.

ANSWER: The B-1B production program has benefited from the competitive aspects of the two-bomber program. Cost and schedule performance by the four associate contractors and their subcontractors has been, and continues to be, outstanding. However, you are correct in your understanding that production of the 100th B-1B aircraft will be complete by June 1988. In fact, because lead times for some of the major subassemblies exceed three years, some work has already started on the 100th aircraft. Many major subcontractors will have completed their B-1B work by the end of FY 1986. Therefore, if a decision to go beyond the current 100 aircraft B-1B buy were made after 1988, the result would be a significant gap in production, and would require a substantial investment in start up costs.

Details of the ATB program are specially controlled under "Special Access Required" procedures. Procedures have been developed to provide this material through the committee staff. We can say the impact of competition has been favorable and anticipate that it will continue to be a positive factor for the near future.

COMPETITION WITHIN THE STRATEGIC BOMBER MODERNIZATION PROGRAM

QUESTION: The potential cost savings that could result from competition within the strategic bomber modernization program compared to the costs if competition were not present.

ANSWER: The Strategic Bomber Modernization Program has already benefited from the competition inherent in having a two-bomber program. The B-1B program, for instance, has demonstrated exceptional cost and schedule performance to date. The competition-related aspect of that performance, while difficult to quantify, is helping the Air Force to achieve the \$20.5B program certified by President Reagan. Likewise, the ATB development is benefiting from competition with an ongoing B-1B production line. There are also a number of ways that both programs internally exert the necessary leverage to control costs, quality, and schedule exclusive of competition. When the ATB goes into production, those controls would certainly continue. We will provide details of the "Special Access" ATB program through the committee staff.

EXTENDING THE B-1B PRODUCTION LINE

QUESTION: If we find it desirable to extend the B-1B production line, when would funding be needed to preserve this option? Further, what would be the cost impact if the production line is broken and then later, more B-1Bs are ordered?

ANSWER: According to contractor estimates, the decision to preserve the option of additional B-1Bs, without a break in the production line, would require the reprogramming of \$60M by June 1985. An additional \$550M would be required by December 1985 to sustain this option. This total of \$610M would cover the termination liabilities of long lead material vendors. If there are no investments made in 1985, a gap in the production line is unavoidable. The cost, or penalty, of delaying a continuation decision until mid 1986 and then restarting production funding would be approximately \$1.6B (TY\$).

OVERLAP OF THE B-1B AND ATB PROGRAMS

QUESTION: If the B-1B and ATB programs do not overlap, or if such overlap isn't of sufficient duration to provide significant competition for the bulk of the contract negotiations with the ATB manufacturer, how can we maintain the leverage that competition gives us? What options do we have and what are the costs of these options in terms of tradeoffs in military capabilities and dollar costs?

ANSWER: We believe that the B-1B program will serve as a model for other major acquisition efforts. In that respect, the B-1B has already provided some elements of competition in the ATB program even though the two planes will not be in production at the same time. Those working to develop the ATB have had to do so knowing that the B-1B was in production. This has helped to keep the development effort on schedule and has helped to insure that a producible system will result that can be built at reasonable cost.

Further, there are a number of methods we can use to provide the necessary leverage to control costs, quality, and schedule on the ATB program. One method is through the use of aggressive contracting actions. Contract structures that provide cost incentives can be employed in conjunction with careful proposal analysis and negotiation techniques to ensure fair and equitable weapon system pricing. Multiyear contracting can also be employed, as is the case on the B-1B program, to allow the benefits of efficient buying and fabrication techniques to reduce the cost of the system further. Controlling the opportunity to buy more or fewer items (than planned) as well as controlling the amount of additional business gives the government some leverage to control cost, quality, and schedule on any program. Another method involves breakouts of government furnished vs contractor furnished equipment. Still another option is determining who has integration responsibility, government or contractors. Options in terms of tradeoffs in military capabilities and dollar costs will be developed as part of the business strategy associated with a production decision.

Details of the ATB program are specially controlled under "Special Access Required" procedures. Procedures have been developed to provide this material through the committee staff.

 QUESTIONS SUBMITTED BY SENATOR STENNIS

PROCUREMENT CONTRACT SAVINGS

QUESTION: Recently, the Air Force reported that it had saved \$439 million by renegotiating a procurement contract for the C-5B aircraft. Since the inflation assumptions in the original contract were higher than experienced and currently projected, the Air Force took the commendable action of securing reduction from the contractor.

This approach by the Air Force seems to be a worthwhile one. Surely there must have been other contracts that included inflation rates that are now higher than actual experience or current projections and would provide windfall profit to the contractor.

Are you examining other contracts for possible savings?

ANSWER: Many Air Force contracts contain Economic Price Adjustment (EPA) provisions and they are routinely reviewed to determine if adjustments are appropriate. These EPA provisions allow for

upward and downward adjustments in contract price when the projected inflation indices, contained in the contract, differ significantly from the actual indices. Every 6 to 12 months, depending on the specific contract provisions, individual contracting officers evaluate the contract projected inflation indices against actual inflation. Adjustments in contract price are then made when appropriate.

The \$439 million saved on the C-5B program was not achieved through renegotiation of the C-5B contract. Rather, the savings resulted from a contract adjustment based on the existing EPA provision contained in the original contract. Due to a lower-than-expected inflation rate, funds could be deleted from the contract. In addition, the Government and the contractor agreed to change the EPA clause to reflect a reduction in the average annual estimated inflation rate to 5.6 percent. The EPA clause provides for the government to pay the real cost of inflation; thereby the potential for windfall profits is greatly reduced for items contained within that clause.

AIR FORCE BASE REALIGNMENT PLAN

QUESTION: The Air Force recently announced a new base realignment plan involving more than 65 installations. No base closings are involved, but some bases would lose or gain substantial numbers of personnel. The actions involved would not be completed until FY 1989. The realignment would involve the Air Force Reserve, Air Force Guard and shifting personnel from overseas to the United States. How would this plan affect the Air Force Reserve and Guard? Why are we shifting personnel from overseas to the United States? What is the cost impact of this plan? Would it ultimately reduce operating costs?

ANSWER: The Air Force FY 1986 Base Realignment Announcement, released on 4 February 1985, detailed proposed changes to the Air Force Reserve (AFR) and Air National Guard (ANG). These changes will modernize and increase the tactical force structure and total force airlift capability of the AFR and ANG in order to meet training and wartime requirements. These changes will increase the ANG 1,412 military and 291 civilian manpower spaces with an expenditure of approximately \$53.4 million in Military Construction Programs. These changes will result in an overall AFR increase of 2,469 military and 821 civilian manpower spaces and cost \$50.1 million in Military Construction Programs.

These actions comply with Congressional guidance to transfer additional missions from the active to the reserve forces. Such mission and unit equipment changes are carefully made in light of operational requirements consistent with fiscal considerations. These measures provide a wartime mission capability in the reserves that would otherwise stay in the active force. Although difficult to quantify at this time, indications are these actions will not ultimately reduce operating costs.

Four hundred fifty-eight active military manpower spaces are being transferred from overseas (United States Air Forces in Europe) to the United States (Tactical Air Command) to remain below the Congressionally mandated European Troop Strength ceiling as we introduce new weapon systems into Europe.

LANTIRN PROGRAM CANCELLATION

QUESTION: CBO, in the recent report, REDUCING THE DEFICIT: SPENDING REVENUE OPTIONS (February 1985), proposed cancellation of the Air Force LANTIRN program, with savings of approximately \$500 million in 1986 and \$3.5 billion through 1990. LANTIRN is designed to aid pilots of single seat aircraft in searching out and destroying surface targets while flying at low altitude in poor visibility. What would be the impact of such a cancellation? CBO has suggested that the F/A-18 FLIR pod might be a replacement. What is your assessment?

ANSWER: Night and under-the-weather attack capability is the highest priority Air Force tactical program. LANTIRN is the system which enables our fighter aircraft to attack targets at night and under-the-weather. Program cancellation would seriously limit the Tactical Air Force's future attack capability. Our current, low altitude capability at night and under-the-weather is limited to the F-111 aircraft equipped with the PAVE TACK subsystem (less than 100 aircraft). Both the aircraft and PAVE TACK subsystems are out of production. Our current fighter force of F-16, F-15, and A-10 have no low altitude night attack capability. Night/under-the-weather attack capability not only doubles aircraft survivability and sortie rate availability in wartime, but also denies the enemy the night sanctuary, which he presently enjoys. The Air Force has investigated numerous alternatives and has determined that no other available single system provides the required night attack capability. Procuring the F-18 FLIR pod for Air Force aircraft is not considered a viable alternative for several reasons: The F-18 FLIR system is a targeting pod only, not a low altitude night attack system; it does not provide a Heads-Up Display nor terrain avoidance capability. The system also contains no laser designation capability or missile bore-sight correlation capability to launch "standoff" weapons. Integration of the F-18 FLIR system would require additional development dollars and time to flight test the system on F-15, F-16, and A-10 aircraft.

 QUESTIONS SUBMITTED BY SENATOR BYRD

ANG BASE FACILITIES AT CHARLESTON AND MARTINSBURG, W.V.

Senator Byrd. On February 24, 1984, in my office, I discussed the matter of a "Land Use Master Development Plan" for the Air National Guard base facilities at Charleston and Martinsburg, West Virginia, with Brigadier General Wess Chambers.

Subsequently, on March 23, 1984, at a joint Appropriations-Armed Services Committee hearing, I questioned General Chambers about this matter, and he indicated his support for the formulation of such a plan. I also discussed the possibility of additional C-130 aircraft at each of the West Virginia sites and the prospects of more modern aircraft, such as the C-130H, for the West Virginia bases.

Senate Report 98-500, accompanying the Omnibus Defense Authorization Act, 1985, dated May 31, 1984, included language, incorporated at my request, indicating that the Armed Services Committee strongly supports the "Land Use Master Development Plan" for the Air National Guard bases at Charleston and Martinsburg, West Virginia, as "... the best way to accelerate the full utilization,

development, and expansion of these bases, including the receipt of additional aircraft, should they become available."

Senate Report 98-567, accompanying the Military Construction Appropriation Bill, 1985, dated July 26, 1984, also included language, at my request, endorsing the "Land Use Master Development Plan" for the Air National Guard bases at Charleston and Martinsburg, West Virginia.

Since then, I have been notified by the Air Force and the Air National Guard that (1) the 130th Tactical Airlift Group at Charleston is scheduled to convert their C-130E models to the newer C-130H models in July 1986; the 167th Tactical Airlift Group at Martinsburg will be expanded from 8 to 12 C-130B aircraft beginning in October 1986, with the associated increase of 29 full-time positions and 68 military drill authorizations and several millions of dollars in new construction; (2) both the Charleston and Martinsburg locations are undergoing a "Comprehensive Land Use and Development Master Plan" which was placed under contract in September 1984 with an architectural review scheduled in April 1985 and a completion date in late 1985 or early 1986.

I ask unanimous consent that the latest communication in this regard from General Conaway be published in the record at this point.

(The information follows)

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
WASHINGTON, D.C. 20310

7 FEB 1985

Honorable Robert C. Byrd
United States Senate
Washington D.C. 20510

Dear Senator Byrd

As follow-up to your meeting with Gen Chambers in Feb 1984, and after your testimony in March before the Joint Armed Services Committee giving support to the Air National Guard, I wish to take this opportunity to update you on action initiated which affects our West Virginia units.

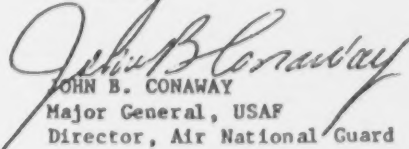
The initial actions involving West Virginia Air Guard unit equippage changes are well underway. The 130 Tactical Airlift Group at Charleston is scheduled to convert their C-130E models to the newer C-130Hs in July 1986. Additionally, I would like to take this opportunity to confirm the buildup of the 167 Tactical Airlift Group from 8 to 12 C-130B aircraft beginning in October 1986. This will result in an increase of 29 fulltime employees and 68 military drill authorizations. Your strong interest in these two superb units has helped immeasurably in making this a reality.

Both Charleston and Martinsburg locations are undergoing a Comprehensive Land Use and Development Master Plan which was contracted in September 1984. The architectural review is scheduled in April 1985 and engineering development will continue throughout the year.

I am pleased that the President's FY86 Budget provides funding of a fire suppression system (\$1.4 Million) for Charleston facilities. Likewise, at Martinsburg a fire suppression system (\$.8M) and parking apron (\$1.9M) to resolve an existing shortage are also included in the FY86 budget. To support the increased number of C-130s at Martinsburg, \$3.3M in construction for apron and jet fuel system will be incorporated into the conversion program.

Your continued support of the Air National Guard is appreciated.

Sincerely


JOHN B. CONAWAY
Major General, USAF
Director, Air National Guard

LAND USE MASTER DEVELOPMENT PLAN

QUESTION: Mr. Secretary, would you please provide for the record, an updated schedule, including significant milestone events, leading to the full realization of the matters discussed above?

ANSWER: Action has been taken in accordance with congressional direction to accomplish a comprehensive land use and master development plan for the Air National Guard bases at Charleston and Martinsburg, West Virginia. The following significant milestone events remain:

- (1) Preliminary concepts submitted to National Guard Bureau (NGB) for review, April 1985.
- (2) Final concepts submitted to NGB for review, June 1985.
- (3) Completion of comprehensive land development studies, Feb 1986.

CONSTRUCTION PLANS FOR WEST VIRGINIA

QUESTION: What construction projects are contemplated in the latest Air Force and Air National Guard five-year plans for West Virginia? Which, if any, of these projects could be accelerated into fiscal year 1986?

ANSWER: The Air Force five-year plan contains no construction projects for West Virginia. The Air National Guard five-year program contains seven projects in West Virginia which are tentatively being considered for programming in future years. These are subject to further reviews and therefore may change. None of these projects could be accelerated into fiscal year 1986 due to insufficient design:

<u>Project</u>	<u>\$M</u>
Kanawha County Airport, Charleston, West Virginia	
Aircraft Holding Pad	1.0
Eastern West Virginia International Airport, Martinsburg, West Virginia	
Composite Avionics NDI Facility	0.7
Short Field Runway	2.5
ADAL Operational Training Complex	3.0
Alter Hangar 110	0.5
ADAL Jet Fuel Storage	1.4
Add to Aircraft Parking Apron	1.9

QUESTION: Mr. Secretary, I trust that you and your staff will keep me personally informed on all matters relating to the Air Force and Air National Guard in West Virginia. May I have your assurances on that?

ANSWER: Rest assured that you and your staff will be kept informed on all matters relating to the Air Force and ANG in West Virginia.

CONCLUDING REMARKS

Senator STEVENS. Thank you for your time. Again, I apologize for the afternoon but it was because of these meetings this morning. We are going to be in recess now until February 28, when we will have an overview hearing on the intelligence program.

Thank you both very much.

SUBCOMMITTEE RECESS

Secretary ORR. Thank you, Mr. Chairman and Senators.

[Whereupon, at 3:25 p.m., Thursday, February 21, the subcommittee was recessed, to reconvene Thursday, February 28, 1985.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1986

TUESDAY, MARCH 5, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, McClure, Andrews, Kasten, D'Amato, and Rudman.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE ARMY

STATEMENT OF HON. JOHN O. MARSH, JR., SECRETARY OF THE ARMY

ACCOMPANIED BY:

GEN. JOHN A. WICKHAM, JR., CHIEF OF STAFF, U.S. ARMY

MAJ. GEN. JAMES J. McCALL, DIRECTOR OF ARMY BUDGET, OFFICE
OF THE COMPTROLLER OF THE ARMY, DEPARTMENT OF THE ARMY

OVERVIEW OF ARMY BUDGET REQUEST

BUDGET AND OUTLAYS

Senator STEVENS. Good morning. This is the time scheduled to hear the Army budget estimates for fiscal year 1986, of which \$78.2 billion is covered by the defense appropriations bill before the subcommittee. This is an increase of \$7.5 billion over appropriations to date for the current fiscal year. Overall, the Army seeks 5.6 percent in real growth over the fiscal year 1985 levels, including the proposed pay supplemental.

BUDGET COMPARISONS

Some areas of the Army budget will experience a higher growth rate, and these include the weapons and combat vehicle procurement, the area of communications and electronics equipment, research and development, and military construction.

COMPARATIVE STATEMENT OF BUDGET AUTHORITY

For the record, gentlemen, we would like to request the Army to submit a comparative statement of budget authority by appropriation account for fiscal year 1984 through 1986. This display should

include real growth calculations based on the latest economic indicators.

In addition, the subcommittee requests that the Army submit a statement of unobligated balances by account for the latest complete quarter and estimated for the end of fiscal year 1985.

[The information follows:]

BUDGET AUTHORITY IN CONSTANT 1986 DOLLARS

[Dollar amount in millions]

APPN	Budget authority, fiscal year 1984	Real growth, fiscal year 1984-85 (percent)	Budget authority fiscal year 1985	Real growth, fiscal year 1985-86 (percent)	Budget authority, fiscal year 1986
MPA	22,489	1.69	22,868	-0.68	22,712
RPA	2,036	8.06	2,200	8.86	2,395
NGPA	2,846	7.59	3,062	12.05	3,431
OMA	18,331	3.06	18,892	6.88	20,191
OMAR	731	1.50	742	5.12	780
OMNG	1,248	16.75	1,457	10.16	1,605
NBRP	1	0	1	0	1
ACFT	3,594	14.30	4,108	-5.23	3,893
MSLS	3,149	5.59	3,325	1.86	3,387
WTCV	5,218	-8.24	4,788	19.86	5,739
AMMO	2,148	28.26	2,755	-4.36	2,635
OPA	5,061	5.26	5,327	7.25	5,713
RDTE	4,522	-0.7	4,519	16.84	5,280
MCA	1,269	29.16	1,639	23.31	2,021
MCNG	73	41.10	103	-9.7	102
MCAR	59	22.03	72	-1.39	71
FHC	187	-20.32	149	138.26	355
FHO	1,144	7.95	1,235	1.70	1,256
ASF	434	-9.22	394	12.18	442
OLYM	54				
RCPTS	-279		-351		-311
Total	74,315	4.00	77,285	5.71	81,698

UNOBLIGATED BALANCES

Unobligated balances as of 31 December 1984 and estimated unobligated balances as of 30 September 1985 are listed by account below:

[In millions of dollars]

	Unobligated balances as of Dec. 31, 1984	Estimated unobligated balances as of Sept. 30, 1985
Military personnel, Army	15,866	0
Reserve personnel, Army	1,743	0
National Guard personnel, Army	2,368	0
Operations and maintenance, Army	13,451	0
Operations and maintenance, Army Reserve	553	0
Operations and maintenance, Army National Guard	1,070	0
Aircraft procurement, Army	3,539	953
Missile procurement, Army	2,933	652
Procurement of weapons and tracked combat vehicles, Army	5,668	1,694
Procurement of ammunition, Army	1,152	326
Other procurement, Army	6,095	2,183

	Unobligated balances as of Dec. 31, 1984	Estimated unobligated balances as of Sept. 30, 1985
Research, development, test and evaluation, Army	3,366	527
Military construction, Army	2,255	1,184
Military construction, Army Reserve	67	16
Military construction, Army National Guard	101	25
Family housing, Army operations and maintenance	847	0
Family housing, Army construction	229	107

INTRODUCTION OF WITNESSES

Senator STEVENS. Mr. Secretary, we are pleased to have you here with us once again, General Wickham, and General McCall. We welcome you before the subcommittee. Your prepared statements will be printed in full in the record. We would ask you to highlight your budget requests and initiatives for the purpose of this overview hearing.

I am delighted to see our colleagues joining us and I think we will have a full attendance today.

Jack, whenever you are ready.

FACTORS DRIVING ARMY PROGRAMS

Secretary MARSH. Thank you, Mr. Chairman. We are very pleased to be here today before the committee. I will begin by thanking you for the tremendous help, support, and assistance you have given to the Army.

I would like to point out to you several overriding factors that relate to the Army program. The Army program is actually driven by four factors:

KEY FACTORS OF THE ARMY PROGRAM

- 1. THE THREAT**
- 2. THE NATURE OF THE CONFLICT**
- 3. THE NATIONAL MISSION GIVEN TO
THE ARMY**
- 4. RESOURCES**

**SLIDE 1**

- One is the threat;
- The second is the nature of the conflict that we might have to face;
- The third is the national missions that are given to the Army, and;
- Finally, the resources that are allocated to the Army both by Defense and approved by the Congress.

SOVIET GLOBAL POWER PROJECTION



SLIDE 2

THREAT

If you look at the threat, you would see that today the potential adversary that we face would be the Soviet Union. They have an army that consists of better than 190 divisions. As you know, they have built a projected naval power. They have the world's largest air force. But in the army that supports its landbased power, we see an army that is rapidly becoming modernized in many different areas. We are seeing them upgrade their armor, their artillery, their communications, their helicopter capabilities and their tactics.

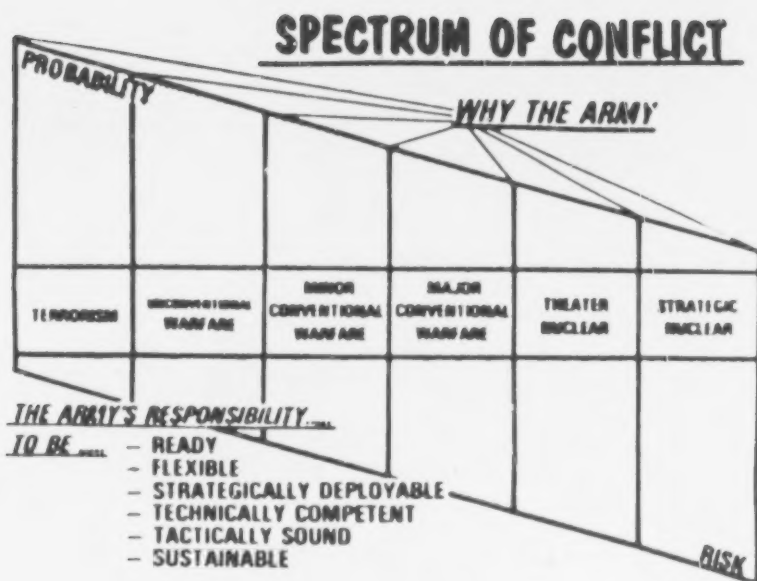


SLIDE 3

SCVIET EXPANSIONISM

So we see a force that is a very potent force, and we also see the Soviet's adventurism expanding beyond the boundaries of the Soviet Union, which is reflected in Slide 3.

The Soviet Union has a very significant foreign military sales program. That foreign military sales program is found in some 30 countries of the world, and we estimate that there are better than 20,000 Soviet advisors that accompany this phase of their activity.



SLIDE 4

SPECTRUM OF CONFLICT

When you look at the nature of the conflict, as you know, the nature of the conflict that we face today is one that covers a wide spectrum. It ranges from terrorism on the far left to strategic nuclear. It is our view that to the extent we can strengthen this center band, we will be able to achieve three things.

One, we will be able to handle conflicts at the lower end of the spectrum; secondly, give the President additional options to stay off of the nuclear battlefield, and, third, through a strong conventional capability, be able to deter war on the conventional battlefield, achieving the national objective of preserving the peace through strength. This area, we see as low in the spectrum. The probabilities are very high of a conflict there, and the risks are inordinately high in the event you lose on the battlefield.



SLIDE 5

MISSIONS OF THE ARMY

If you look at the missions of the U.S. Army, and you have to do that in a global sense, they do not come from the Army. On the contrary, they come from the National Command Authority, and there are six principal missions for the U.S. Army.

—To beat the Warsaw Pact, and to maintain the territorial integrity of NATO;

—second, to deny the Soviets the oil resources of the Middle-East;

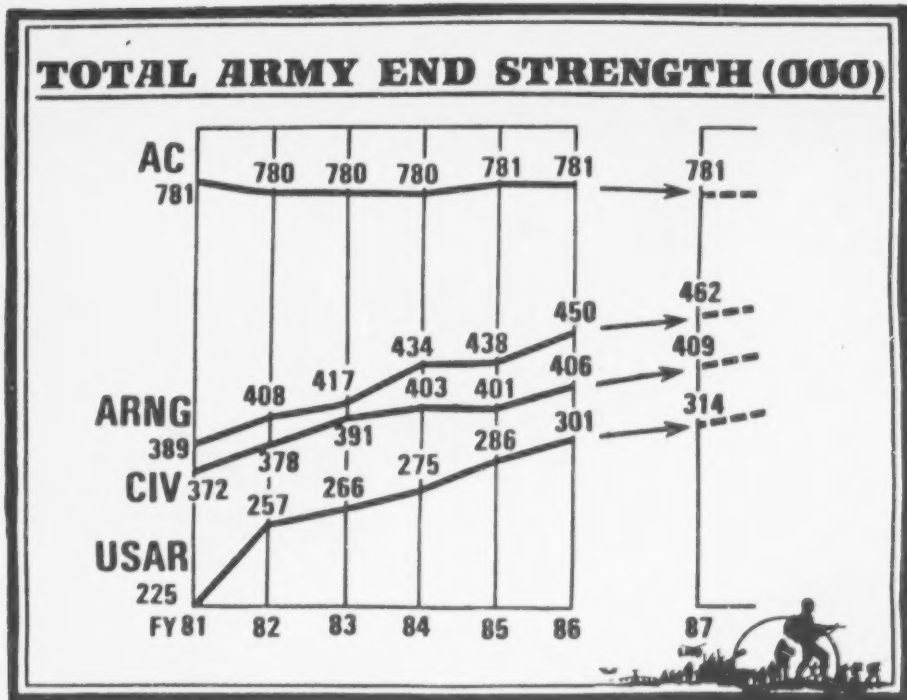
—third, to defend the U.S. interests in the Pacific;

—four, to aid our allies in Asia, in Africa, and in Latin America;

—five, to build the strategic reserves able to defend the rest of the Western Hemisphere, which includes Alaska; and,

—finally, to be able to respond to threats elsewhere to U.S. interests in the world. This is a very tall order.

How do we seek to do that in this year's budget?



SLIDE 6

CAPPING THE END STRENGTH

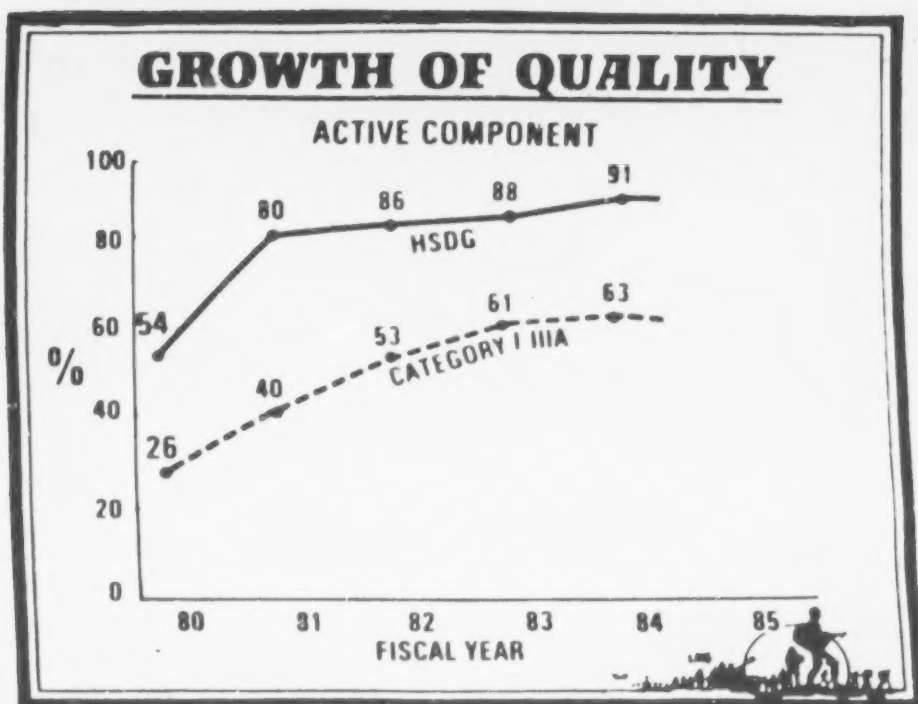
The first thing that I would say to you is that 4 years ago, a decision was made in the Army, on the recommendation of the general staff, which I agreed to. We decided that we would peg the active end strength of the U.S. Army at about 781,000.

With the pegging of that end strength, you would see an emphasis on readiness, modernization, sustainability and training in order to improve that smaller force. At the same time, we would incorporate an enormous amount of our effort toward the National Guard and the Reserve.

RESERVE COMPONENT

You see the ramp up of both the Army Reserve here, moving to almost 301,000 this year, and the Army National Guard, moving to slightly more than 450,000. I would point out that this year, for the first time, you are seeing the National Guard and Reserve, when added together, at about the same strength as the active Army, and next year it will be almost one for one.

The principal mission of the U.S. Army is readiness, and readiness breaks into two parts. One part of that readiness is the quality of people that we have in our force, the personnel; and the other part is equipment. Let's look at the personnel side of the readiness equation.

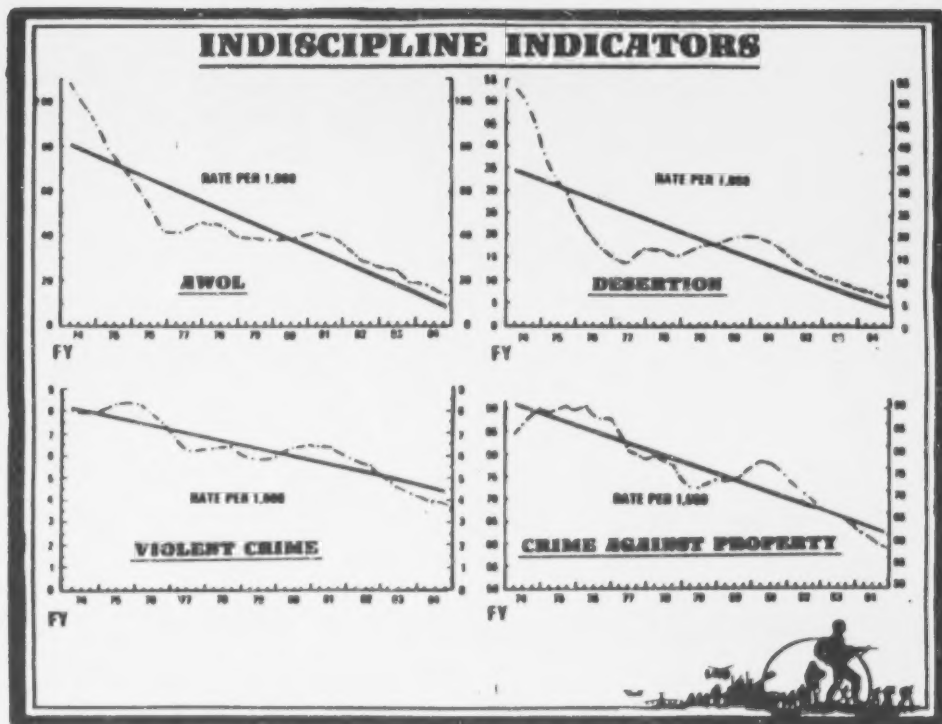


SLIDE 7

PERSONNEL QUALITY

The first thing I show you is that we have moved to accessions into the Army last year of 91 percent high school graduates. Of those young people coming into the Army, 63 percent are in the upper three mental categories of the Armed Forces Qualifications Test, with about 10 percent in what we call CAT IV.

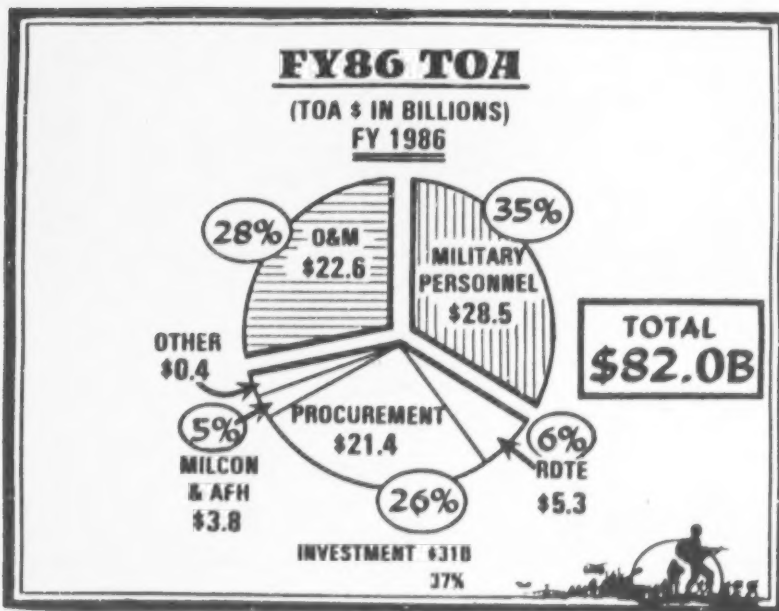
The performance of these people is very marked. It is very observable in the manner they are trained. It is very observable in their motivation and their dedication. It is also very important and reflects in another way that you don't often see, and that is what we call the indices of indiscipline.



SLIDE 8

INDICES OF INDISCIPLINE

There are four principal areas in which we measure indiscipline in the Army—AWOL and desertion, violent crime, and crimes against property. You will notice that all four ramps are markedly down. The AWOL rates and the desertion rates in the Army today are lower than at any time we have been able to find this type of data. Fourteen AWOLs out of 1,000 and desertions are down to about 6 per 1,000. This is a very significant indicator of the attitude, the trainability, and the management of the young people in the Army today.



SLIDE 9

ARMY BUDGET

Let's look at the Army budget that you appropriated for us last year as compared to this year. We are coming in this year at \$82 billion. If you put that in the big budget pie that you always look at, you see that military personnel will be 35 percent of that budget at \$28.5 billion; operations and maintenance will be 28 percent of the budget; and the investment account will be about 37 percent.

RESERVE COMPONENTS

FY86 - \$11B 13%

\$2.4

\$5.8

\$0.2

\$2.5

OVERLAY FOR SLIDE 9

RESERVE COMPONENT

If you look at the National Guard and the Reserves, and I would like to emphasize the point, there is enormous emphasis in the Army on the participation of the Guard and Reserves in the total force policy. Of this year's budget, 13 percent will go into the Guard and Reserves; \$11 billion. That \$11 billion is reflected in \$5.8 for military personnel, and \$2.4 in operations and maintenance. Then, you see, \$2.5 billion is in procurement.

Last year, we put into the National Guard and Reserve \$1.4 billion of modernized equipment, and this year we are putting in another \$1.4 billion in modernized equipment. We will be asking for \$2.5 billion, but a lot of that will go, of course, into long lead time items. But this is a very significant dimension.

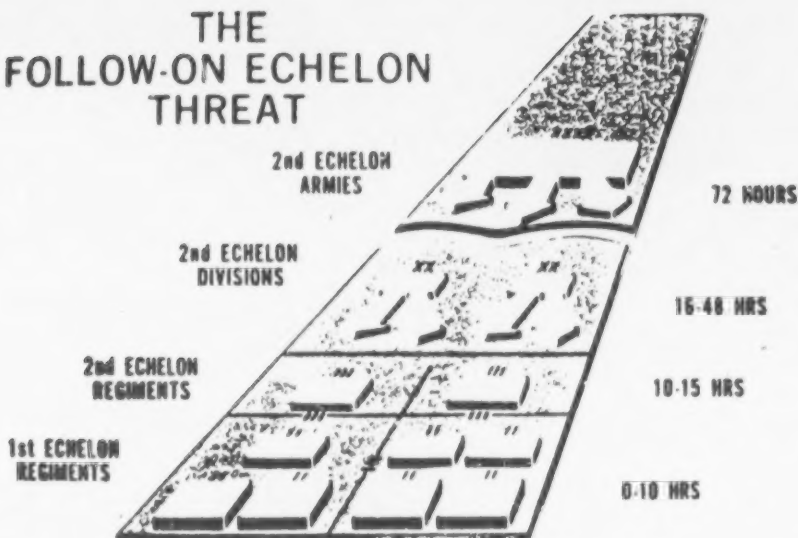


SLIDE 10

AIRLAND BATTLE

Associated with that, you see coming on stream in the Army the development of the AirLand Battle concept which uses technology, extremely able forces, and tactics on the battlefield together, with the integration of the capabilities of the Air Force, to carry out our national defense.

THE FOLLOW-ON ECHELON THREAT

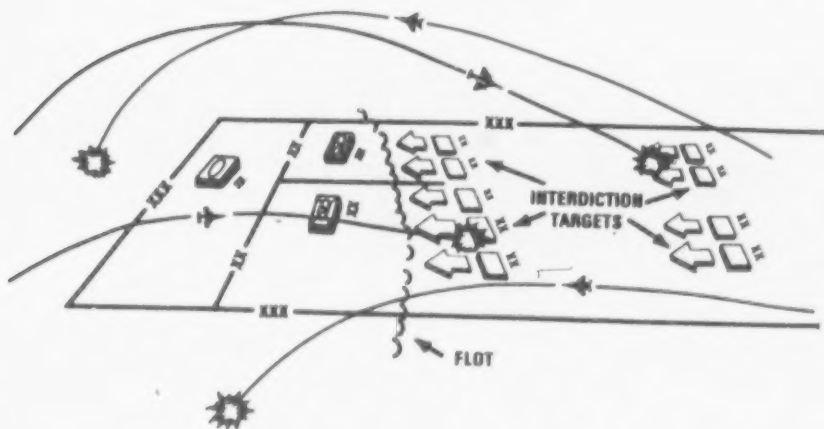


SLIDE 11

SOVIET TACTICS

As you are aware, the tactic that the Soviets employ is one of mass. They deploy successive echelons in attack. The strategy of the AirLand Battle concept is to break up that mass, both by stopping or halting it on the front, and by striking it deep using air and Army far reaching capabilities—look deep, see deep, and strike deep.

SITUATION 1



SLIDE 12

PROTOTYPE OF A LIGHT DIVISION

10,600

HNC
MP
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⬢
T
RI

⊠
⊠
⊠
⊠
⊠

●
HNB
⊠
⊠
⊠
(150)

⚔
HNC
CAC
⊙
ATK
RECON

DISCOM
HNC
⚔
⊙
⊠
TAMC
BAND

FORT DRUM
ALASKA

(146 BTY NOT INCLUDED IN DIV TOTAL)

SLIDE 13

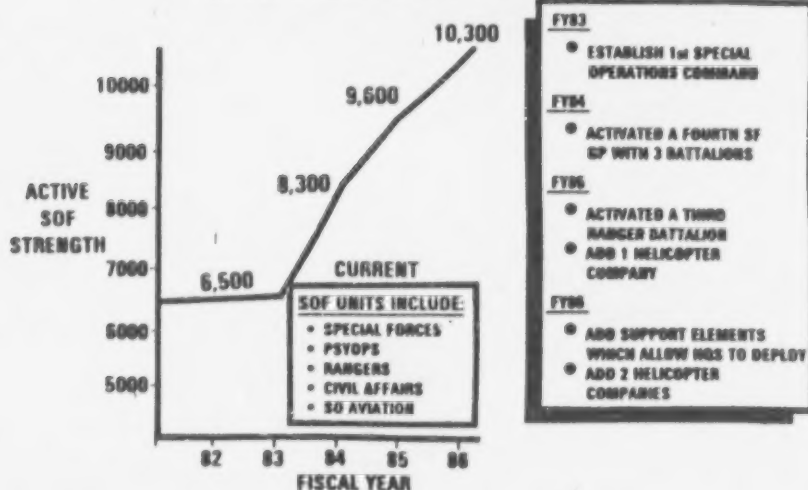
LIGHT INFANTRY DIVISION

General Wickham, the Chief of Staff of the Army, is father or the architect of the light infantry division, which is 10,600 people, predominantly infantry forces. We are bringing on in the Army today two light divisions in the active force, the 10th Mountain Division recently activated at Fort Drum, New York, and the 6th Infantry Division which we will activate shortly in Alaska. A third will be a National Guard division, the 29th Infantry Division.

This light division, which General Wickham will speak to, has the capability of being deployed anywhere in the world in less than 5 days, and using less than 500 sorties in a C-141 aircraft.

SPECIAL OPERATIONS FORCES

AC SOF STRUCTURE IMPROVEMENTS



SLIDE 14

SPECIAL OPERATIONS FORCES

To improve our ability for deterrence at the lower end of the spectrum that I mentioned to you, the area of unconventional or guerilla warfare, you will notice a ramp up of our special forces from 6,500 in 1982 to 10,300. There is an enormous emphasis inside the Department of the Army on our Special Operations Forces, which consist of Special Forces, or Green Berets, the Rangers, Civil Affairs, and Psychological Operations, and Special Operations Aviation.

We recently activated a Ranger Regimental Headquarters at Fort Benning, GA, and the third battalion of Rangers. I can tell you that that battalion, activated in the last summer/early fall, already has 140 percent of its strength.

RETALIATORY CAPABILITY

current stockpile...



SLIDE 15

CHEMICAL WARFARE

One of the areas that I must bring to your attention because it is a shortfall, a weakness that we have, and an area that must be addressed, is our retaliatory capability in the field of chemical warfare. Absent the ability to achieve an enforceable and verifiable treaty diplomatically, we must rely on retaliation to keep chemical warfare weapons off of the battlefield.

We know that the Soviets have them; they are developing them, and we expect that they will use them in their tactics. We are relegated in large measure to defensive gear which is very encumbering. Only 10 percent of our chemical stockpile is useful.

In order to give our forces the quality that they need on the battlefield, it is imperative that we develop the binary capabilities of chemical munitions in order to meet that phase of the Soviet threat. During World War II, no country used chemical weapons because of the threat of retaliation.

SELECTED ACQUISITION REPORTS(SARS)**CURRENT DOLLARS (M)****PROGRAMS WHICH HAVE BEEN REPORTED FOR ALL SIX YEARS:**

	DEC 79	DEC 80	DEC 81	DEC 82	DEC 83	SEP 84*
AH-64	5454	6599	7381	7370	7327	7360
AN/TTC-39	813	916	1029	1183	964	964
BLACKHAWK	5722	6581	7834	7384	7314	7314
CH-47 MOD	2083	2620	3155	3283	3403	3403
SGT YORK GUN	3802	5109	4134	4124	4193	4193
BRADLEY FVS (1)	7097	12235	12720	10637	11322	11322
HELLFIRE	987	1653	2048	2232	2457	2425
MLRS	3819	4223	4137	4197	4303	4303
PATRIOT	6134	8323	10709	11681	11862	11862
PERSHING II	1684	1826	2812	2738	2903	2903
STINGER	1570	1879	3796	3808	3765	3765
M1 TANK	12526	18955	19574	20380	20050	20050
TOTAL	51.690	70.919 (19.229)	79.328 (8.409)	79.016 (-312)	79.861 (845)	79.861 (0)

(1) BFVS DOES NOT INCLUDE 25MM AMMUNITION PROCUREMENT.

* LATEST PROGRAM ACQUISITION COSTS SUBMITTED TO CONGRESS

0.8% CHANGE
SINCE 1981

SLIDE 16

ACQUISITION MANAGEMENT

Finally, by way of a summary in the field of management, when we came before you in 1981, under the legislative provisions that we call the "Nunn-McCurdy provisions," I was required to report to you that there were five major weapon systems that we were acquiring that were in the overrun position.

Here we show 12 of the major Army systems from 1979. The trick of the column is to be certain that each succeeding column translates very closely to the column that is marching before it because that indicates that you are producing on target, on stream, and that you are acquiring weapon systems in the amount for which you budgeted.

This year, the top column, the final column, 1984, we were \$79.8 billion, only a change of six-tenths of 1 percent over 1981. It is not a final and conclusive chart as to controls, but it does indicate discipline in the system, and it does indicate improvement in management of your weapon systems which is very effective.

It is a pleasure to be before the committee, and General Wickham and I will welcome your questions.

Senator STEVENS. Thank you very much, Mr. Secretary.

[The prepared statement of Secretary Marsh follows:]

PREPARED STATEMENT OF HON. JOHN O. MARSH, JR.
 SECRETARY OF THE ARMY

Mr. Chairman, members of the subcommittee:

When I became Secretary of the Army there were personnel and equipment shortages and training shortfalls. It was clear that in a dangerous world United States forces would confront most likely enemies outnumbered. We were faced with a fundamental choice. We could expand our active component force levels and military end strength at the price of readiness and modernization. Or, we could maintain our active force levels and military end strength in order to protect our readiness initiatives, sustainability, and minimum essential modernization. We elected to meet the numerical threat with a qualitative response. We chose to maintain readiness and sustainability initiatives and to pursue essential modernization while holding active component end strength at a constant level.

As the principal manager of the Army, responsible for all of its multiple activities, I am very much concerned with the stewardship of funds provided us by Congress. Our Total Army -- Active, Reserve, and Civilian Components -- is committed to using its assets effectively and efficiently to improve force readiness, achieve needed modernization, and support our soldiers in the most efficient manner possible.

To achieve these goals, the Army is requesting in FY 86 total obligation authority of \$82.0 billion, which represents real growth in constant FY 86 dollars of 5.6 percent. This budget has been formulated with care, and contains only those programs absolutely necessary for maintaining the strength and effectiveness of our land forces.

In formulating the FY 86 budget we have been fully cognizant of the growing federal deficit. Defense and the Army are concerned with this deficit, and the FY 86 budget request has already been reduced by \$5.9 billion, most of which constituted programmatic adjustments. These resulted last year from the so called "Rose Garden" agreement and again in January prior to the President's budget submission. Any further reduction considered will be the third cut in the Army's FY 86 budget.

While our primary mission remains improved readiness and sustainability, our budget emphasis stresses new efficiencies. Our modernization is professionally managed and closely aligned to our strategic and tactical requirements. Our force structure initiatives, including unprecedented use of Reserve and National Guard forces result in greater tooth to tail ratio, more fighting force for the dollar spent. Our joint initiatives with the Air Force and Navy represent our commitment to the proper alignment of missions and resources for the nation's defense.

Our improved ability to manage systems was one result of the approach we chose. When I addressed you four years ago the Army was in the unfortunate position of having to report five violations of the Nunn-McCurdy Amendment. The Roland, the Hellfire, the Patriot, the Pershing II and the Apache were the systems out of tolerance. Since that time, considerable progress has been made in this area.

The decision to cap the active component end strength put the premium on quality in our manning programs, and we have been successful in attaining that quality. This last year we continued our recruiting record of FY 83. High school graduates enlisting in the Active Component increased to 90.8 percent. At the same time Test Category IV's fell to 10.1 percent.

These soldiers and their families are entitled to the same quality of life as the society they are pledged to defend. To assure that quality, the Army, through the year of "The Army Family", produced an extensive system of information and services designed to support the entire Army Family, active, reserve, civilians, retired and family members. New manning and force structure initiatives such as COHORT and the regimental system recognize and capitalize on the direct relationship between Army readiness and family well being.

The most profound impact of our fundamental choice was the unprecedented increased reliance on our Reserve Components. Most manpower increases must come in the Army Reserve and National Guard. Ten combat divisions, representing 36 percent of the combat force, come from the Army National Guard. Two thirds of the Army's combat service support capability comes from Reserve Component units. This trend will continue and it will mean increasing demands on our citizen soldiers, their families, and their employers.

The Army continues to experience success in recruiting and retention, but is forced to address a diminishing youth market, improving employment rates and inequities in military versus civilian pay. While programs have been designed to address these problems, it is clear that in the future manning the force will be more difficult than in recent years.

The primary threat to United States interests remains the Soviet Union through its influence and range of activity. Both are expanding in size and in sophistication. The Soviets' belief that the next war will be global in scope, unprecedented in pace and dramatic in social and economic impact has generated a corresponding modernization and growth on their part.

We confront an increasing threat on old ground. NATO now faces nuclear capable artillery, improved short range ballistic missiles and reorganized air defenses. These improvements are brought together in the Operational Maneuver Group concept; the Soviet equivalent to our AirLand Battle doctrine.

The Soviet Union continues to export its aggressive intentions beyond its borders. It supplies more military equipment to Third World nations than any other country. It equips and trains surrogate forces around the world. And it relies on its connections with countries like Syria, Cuba, Nicaragua, and North Korea and Vietnam to exploit regional tensions and conflicts.

Even without Soviet influence, peace and stability are difficult objectives in the Third World. Economic hardship, social injustices, and traditional international and religious animosities persist, constantly threatening our attempts to maintain stability among Third World nations. These problems are on the rise as are their attendant forms of violence and aggression; terrorism, insurrections and insurgencies.

While the principal mission of the Army is to develop readiness, we do so in response to the threat I've just described. Our mission is best explained in a series of statements which describe the global Landpower requirement.

- o Defeat a Warsaw Pact attack on NATO
 - o Deny Soviet control of the Persian Gulf
 - o Support friends and allies in Asia, Latin America and Africa
 - o Defend vital U.S. interests in the Pacific
 - o Maintain a strategic reserve to counter threats in the western hemisphere;
- and
- o Respond to other threats to U.S. interests

The FY 86 Budget supports initiatives that will enhance the Army's capability to respond fully and flexibly when necessary. The budget is designed to continue the improvement of the Army along the course established during the past four years, through capitalization on force multipliers that increase combat leverage.

The framework that focuses the Army's direction is its combat doctrine, AirLand Battle, a doctrine which seeks to seize and exploit the initiative, to defeat the enemy through the synchronization of combat power and to attack the enemy to its full depth. AirLand Battle is the doctrinal lever which enables numerically inferior, but qualitatively superior forces and equipment to prevail.

Several AirLand Battle force structure initiatives are underway to improve strategic deployability, the effectiveness of heavy, light, and special operations units, and the support forces that provide staying power. Despite the deliberate constraint on Active Component end strength, effective capitalization on technology and the full integration of Reserve Components can ensure that these improvements will enable the Army to respond effectively to the entire spectrum of conflict.

The Army's extensive review of the changing world situation, national strategy, force structure, and dispositions, led to the conclusion that modernization of our light forces was essential both to respond to emerging low intensity threats, and to improve our ability to execute AirLand Battle. Light forces, correctly employed in urban areas and close terrain such as forests, can free armored and mechanized forces to counter the enemy on more suitable, open terrain. Their increased strategic mobility permits an early commitment of forces to a developing situation at the lower end of the spectrum of conflict, possibly avoiding the choice later of a larger commitment or abandoning the field. Guidance for the design of the light infantry division required that it be able to deploy in approximately 500 C141B sorties, contain approximately 50 percent infantry, and that it include innovative, lethal and flexible capabilities as well as a relatively austere support base. Beginning with the activation of the 10th Mountain Division (Light Infantry), and over the next

three year period, the Army will activate new divisions and restructure two existing divisions to arrive at a force level of five light divisions, four Active and one Army National Guard.

The need for increased capability and freedom of action to address threats at the lower end of the spectrum of conflict requires high priority modernization of Special Operations Forces (SOF). Reversing the trends of the post-Vietnam era, the Army embarked on an expansion of SOF elements in the early 1980s. The Special Operations Master Plan of April 1984 guides the enhancement effort for the coming years. FY 86 will see several unit activations along with manpower and funding growth. The Reserve Components are significant participants in these efforts as they provide both Special Forces units and the predominance of Psychological Operations and Civil Affairs units.

By September 1986 all of these initiatives will have led to a Total Army force authorization mix that has slightly less than 50 percent of both combat and support functions in the Active Component.

Heavy forces are continuing to convert to a more modern design. These refinements improve affordability and operational flexibility through greater efficiency in organization and prudent tailoring of the force to implement AirLand Battle doctrine. Reserve Component affiliation with Active Component units will continue, with roundout units converting to new unit designs at about the same time as their associated Active Component unit. In line with AirLand Battle doctrine and the restructuring of heavy and light forces, corps level units are undergoing redesign to provide the corps commander the assets he needs to influence the battle. The provision of both support and combat units will provide greater flexibility to respond to anticipated threats.

Along with force structure changes, we intend to provide the American soldier with better equipment than any potential enemy. We have caught hold of the modernization challenge and are now integrating over 400 new items and systems into the Army while maintaining readiness and training standards. As stewards of resources we are seeking balance between light and heavy forces, combat and support units, and forward deployed and augmenting forces. As well, the balance between planning the acquisition of future equipment and sustaining existing systems must be maintained. The Army's 'first to fight, first equipped' philosophy requires both active and reserve units to receive new equipment and turn in old, to reorganize units around new equipment, and to train and maintain to fight as part of the Total Army. At the end of FY 86 fourteen battalions will have received major new weapons systems with \$1.4 billion worth of new or displaced equipment scheduled for the Reserve Components.

The increased sophistication of equipment and the imperatives of AirLand Battle, demand emphasis on realism in training and efficient use of training assets. The Army's extensive range modernization program and our training device and simulation initiatives are upgrading training opportunities while restraining training costs. An improved flying hour program and continued intensity of National Training Center rotations, have increased individual proficiency and unit training readiness.

The Army Posture Statement details the specific accomplishments we have made in providing American soldiers better equipment and, as you know, the results of the system acquisition review process indicate we have a solid foundation for rational acquisition actions. This newly acquired equipment is a part of the most extensive modernization in the Army's history. The integration of this new equipment into a revamped force structure and the transfer of displaced equipment requires skillful management. Coupling this force modernization challenge with innovative management of fixed end strength and limited manpower and dollar resources is designed to achieve a single objective -- improved readiness.

The light infantry initiative directs attention toward what may be the national Achilles heel, our strategic mobility shortfall. We are working steadily with the other services to improve airlift and sealift capabilities. During 1984, airlift was increased by 2.6 million ton miles per day. Sealift increased with the conversion of four commercial ships to the roll on/roll off configuration and with increases from 34 to 46 ships in the Ready Reserve Force. Even with these improvements our strategic mobility is far from adequate. The light infantry initiative relieves the shortfall to some extent, but the requirement for global military deployment far out distances our national capabilities. The Army will benefit greatly from service and commercial actions to increase airlift and sealift.

If the Army has an operational and tactical Achilles heel, it is our chemical warfare retaliatory capability. At a time when the chemical warfare threat is increasing around the world, in all levels of conflict, our posture for battle with enemies armed with chemical weapons remains weak. Our chemical defense readiness has been improved by providing more protection, decontamination, and monitoring equipment. Serious shortages remain. In FY 86 we will begin procurement of a new collective protection shelter and an improved mask. But even improved chemical defense does not compensate for the 30 to 50 percent loss of operating capability caused by use of the protective equipment. More importantly, our deterrent capability is not adequate and won't be until we field a modern chemical retaliatory capability. Defense alone will not deter chemical warfare. The nation needs to produce binary chemical weapons.

In 1985, the Army theme is "Leadership." We undertake this theme to extend our understanding of leadership, improve our programs to develop leaders, and assess how we, as Army leaders, measure up to our own standards. We must imbue in all leaders the knowledge and inspiration necessary to develop the character and the traits of strong leadership our Army must have in abundance to assure deterrence of war, or victory in battle. If we are successful, we will fulfill the goal that we established for ourselves: A total Army whose leaders at all levels possess the highest ethical and professional standards, committed to mission accomplishment and the well-being of subordinates.

CHIEF OF STAFF, U.S. ARMY

LAND POWER

Senator STEVENS. General Wickham.

General WICKHAM. Thank you, sir.

Mr. Chairman and members of the committee, it is a privilege to be back here again to talk to you a little bit about the state of the Army, following up on what the Secretary has already indicated.



- BROAD SPECTRUM OF THREATS
- BURDEN OF DETERRENCE SHIFTING
TO MODERN CONVENTIONAL GROUND FORCES
- DETERRENT AND WAR FIGHTING CAPABILITY
- RAISES NUCLEAR THRESHOLD

ALWAYS PREPARED . . .

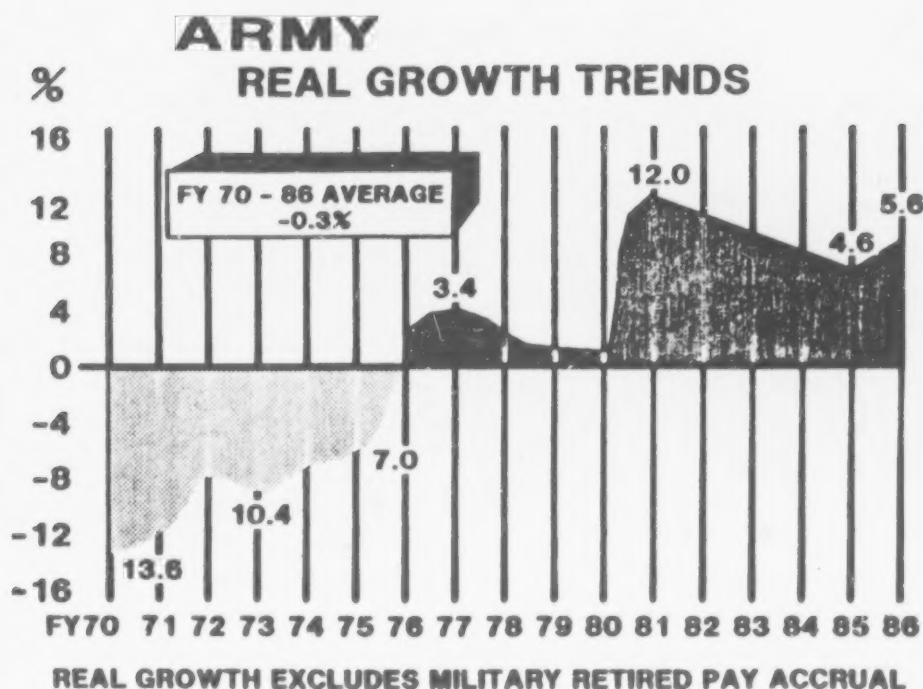
NO MISFORTUNE.

SLIDE 17

First of all, our land power; that is what we are talking about. Land power changes history. The longest period of peace in 400 years of European history was brought on by deployed land power with air power.

If we are serious about raising the nuclear threshold, the improvements in our conventional capabilities are going to do that. An Asian proverb—Always prepared, no misfortunes.

Where has the Army been over the last 16 years in terms of investment by the Congress?



SLIDE 18

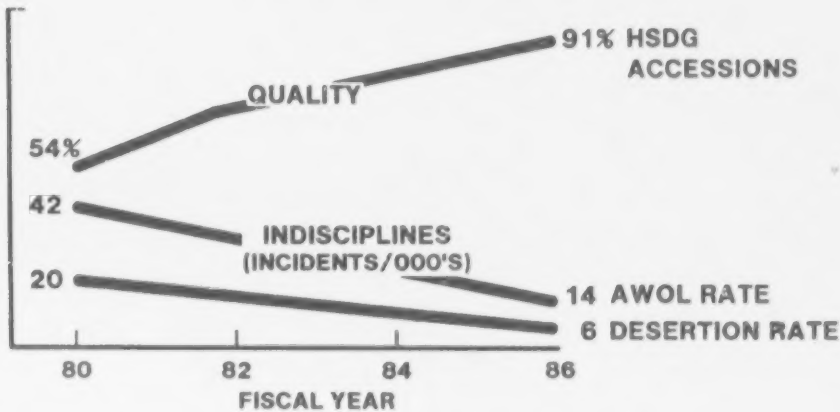
ARMY REAL GROWTH

You see here, from 1970 through 1986, the percentage of real rate of growth in Army funding, and the total obligation authority. You see that in the first part of the 1970's, we lived off of the shelf, and that is negative real growth. It is not until the late 1970's that there is a small amount of real growth, and then in 1980 a substantial rate of real growth, 12 percent which was the appropriation and the authorization by the Congress; and then on down to 4.6 percent rate of real growth in 1985; and we are coming in this year at 5.6 percent. I am not sure what is going to come out, there is much debate about all of that, but it is the work of the Congress to decide that.

We make one point with this; that with this small rate of real growth for the Army, land power is compensating for a decade of living off the shelf when we had a net negative rate of real growth. By the way, the modernization of the Army just began. The other services began earlier than the Army.

QUALITY vs INDISCIPLINE

ACTIVE COMPONENT

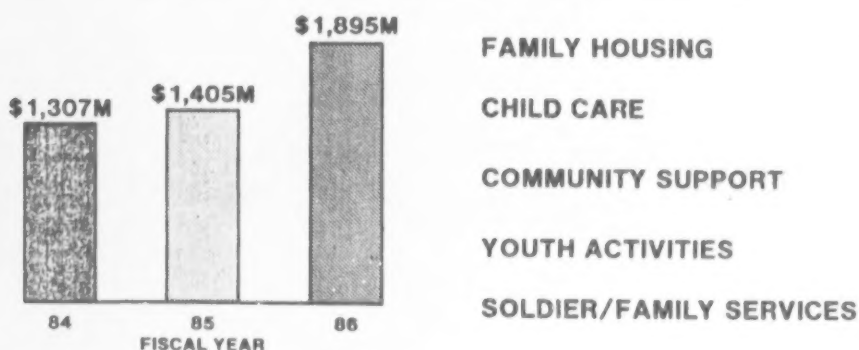


SLIDE 19

QUALITY

The quality of the soldiers, the Secretary has already talked about that. They are the finest quality soldiers that I have seen in 35 years of commissioned service. They are still coming in despite the marketplace turnaround. We have to work harder, but we are getting them. As Secretary Marsh indicated, the rates of indiscipline are the lowest in the Army's history. A great obligation for us in the services is to capitalize on this gift of quality youth.

ARMY FAMILY PROGRAM



...THE STRONGER THE FAMILY

... THE MORE READY THE ARMY.

SLIDE 20

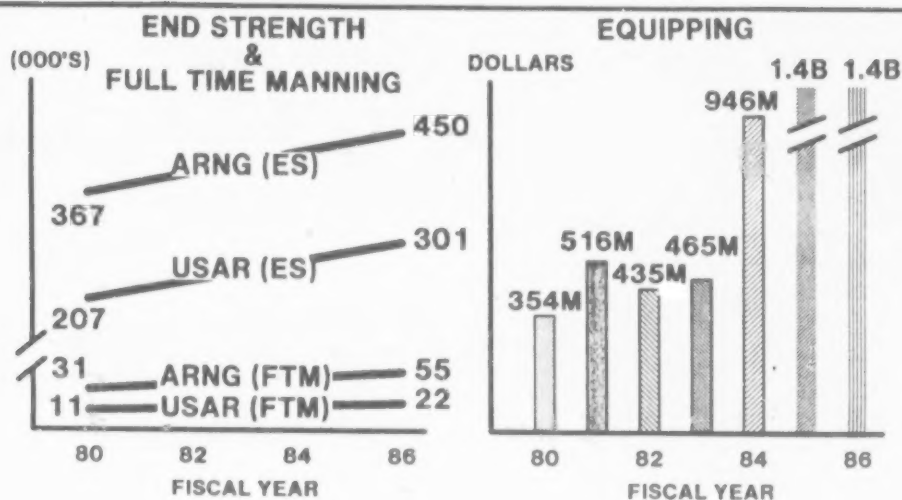
ARMY FAMILY

Part of dealing with a quality Army deals with the family:

- 54 percent of the Army is married;
- 700,000 children, half of them under the age of six;
- half of the wives work.

It is important for us to deal concretely with family programs. The stronger the family, the better the Army. It is as simple as that, quite aside from moral implications. With this growth, we are putting money where our mouth is, and thanks to the Congress we have been able to do that. Much of this is in family housing. Of the \$1.9 billion here, \$1.6 billion is in family housing. The rest is in the very important areas of child development centers and the other family services.

RESERVE COMPONENTS



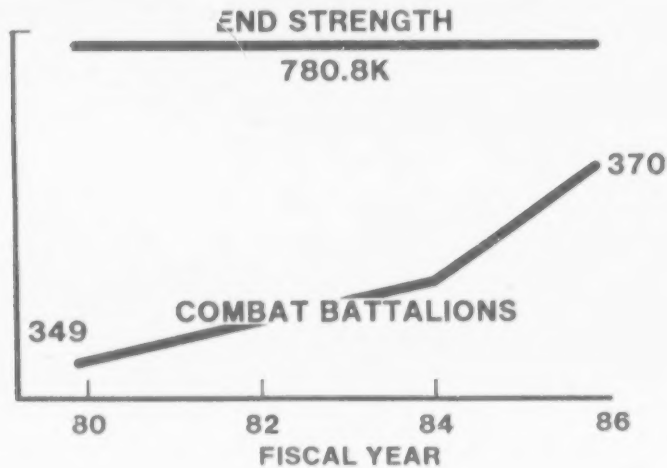
SLIDE 21

RESERVE COMPONENT

The Secretary indicated that we are making great progress in improving the quality of the Reserve component. You can see the growth in the Army Guard, in the end strength, and in the Army Reserve. Incidentally, they are meeting their quotas thanks to the incentives. The new GI bill is going to be very helpful in terms of improving their enlistment incentives.

The full-time manning program for military technicians and AGR is growing. We need that full-time program because we are putting new equipment in the Guard and Reserve in larger and larger quantities; a jump from 1984 of about \$1 billion to about \$1.4 billion and that is going to continue in the outyears. This is once again putting our money where our mouth is in terms of improving the Guard and Reserve. The Congress has been telling the Army to do that, and we are doing it.

END STRENGTH vs COMBAT BATTALIONS ACTIVE COMPONENT



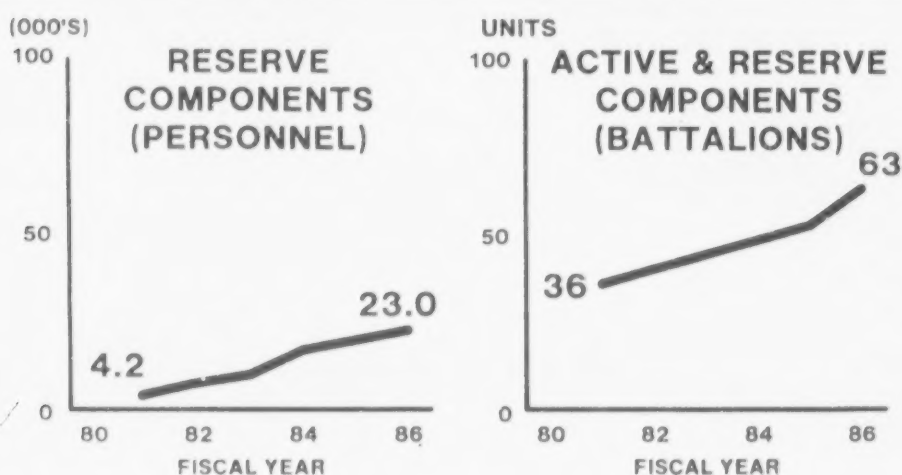
SLIDE 22

GUARD AND RESERVE READINESS

We are doing this also in terms of improving the readiness of the Guard and Reserve. We see this jump from 4,000 personnel overseas in training to over 23,000 in 1986. We have 9,000 Guardsmen in Panama now, over a period of 5 months, building a road. It is good engineer training, but it is also good for relations with Panama, and important to Army readiness.

You see the number of battalions involved in training overseas increase from 36 to 63, all important in terms of building concrete readiness for the Active and Reserve Components.

OCONUS DEPLOYMENT TRAINING



SLIDE 23

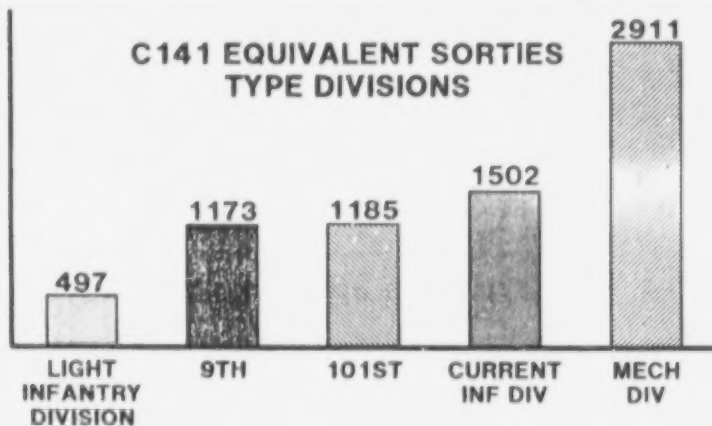
CONSTANT END STRENGTH

Let me talk briefly about the Active Army because there is a good story to be told here. The Active Army, as the Secretary indicated, is constant in end strength, has been since 1980, and will be for the rest of this decade unless unforeseen circumstances occur.

There are many reasons for that, but one of the good stories that comes from holding the Active Army small—it is the smallest army in 35 years—is the ability of the Army to discipline itself within that end strength and create more combat capability. We have added 21 combat battalions since 1980 within this end strength.

Capitalizing on technology, and capitalizing on disciplining our internal structure, we create more fight for the dollar. I think that is good news, and that is where those two divisions are coming from, the one going to Alaska, and the one that we activated last month. Senator D'Amato was there when we did that.

STRATEGIC DEPLOYABILITY



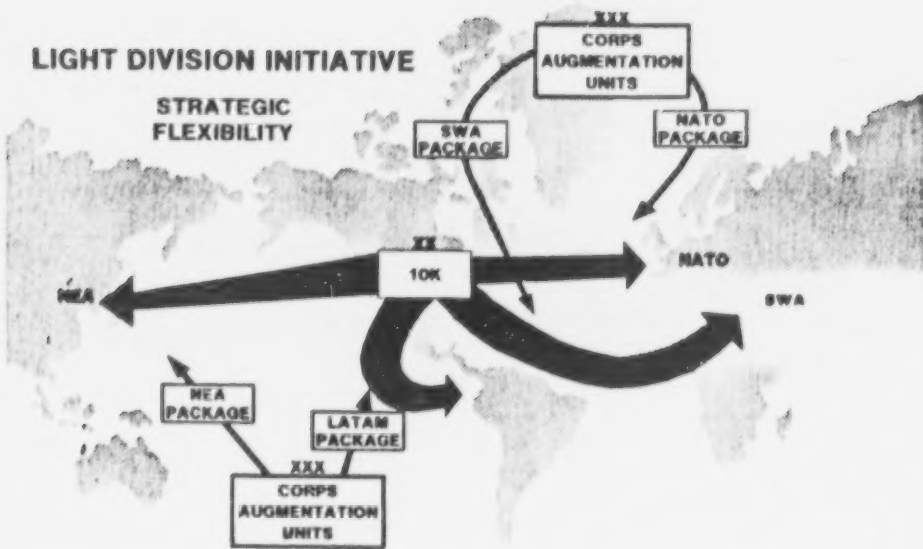
SLIDE 24

ARMY FORCE STRUCTURE

How does the Army structure itself? This is part of the reason for the light division. We have 21 divisions of heavier forces, 9 Reserve Component and 12 active, and in the lighter type of forces, only 7, 1 Reserve Component that is organizing, the 29th Division in Virginia and Maryland, and 6 active divisions. We have 8 Special Forces Groups and a Ranger regiment. That is basically how the Army is structured.

Why is it preponderantly heavier? Because of the greater risk of NATO war; that is why the Army is putting its resources, that the Congress appropriated, in this area. But we need to be concerned about the ability to deploy rapidly, and that is why we have gone to the lighter forces because, you see, our heavy forces literally are heavy. It takes something like 2,911 sorties to move a mechanized division, and that is about a month of total commitment of our airlift.

Even with our current infantry divisions, the 101st Air Assault Division or the 9th Motorized Division, there is still too much airlift required to move them. That is the genesis of the light infantry division, to create a hard hitting, a lead infantry kind of force, with 50 percent strength in elite infantry, that we can move in less than 500 C-141 sorties and put anywhere in the world in 4 or so days, depending on the distance, for deterrence purposes as well as for fighting purposes to our advantage. That is the genesis of it.

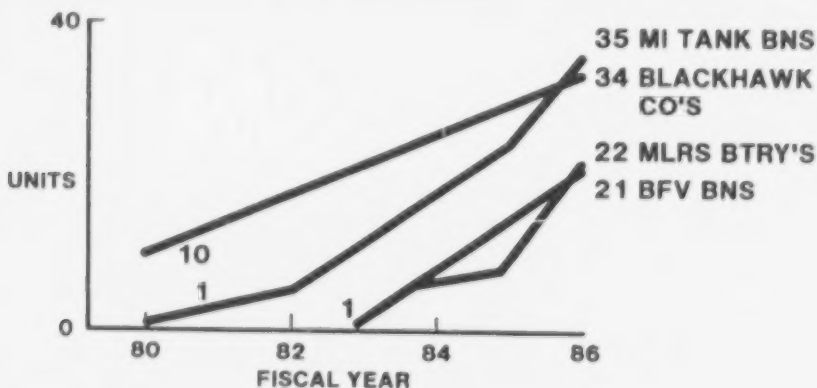


SLIDE 25

FAST DEPLOYMENT DIVISIONS

This slide illustrates the capacity of a small division—we are going to have five of them—that we can move very rapidly around the world—NATO, Southeast Asia, Northeast Asia, or elsewhere. If they need additional augmentation in the way of antitank capabilities, or mobility, or artillery, that is or will be made available through Reserve Component units or active units or prepositioning.

MODERNIZED EQUIPMENT IN UNITS TOTAL ARMY



SLIDE 26

MAJOR END ITEMS

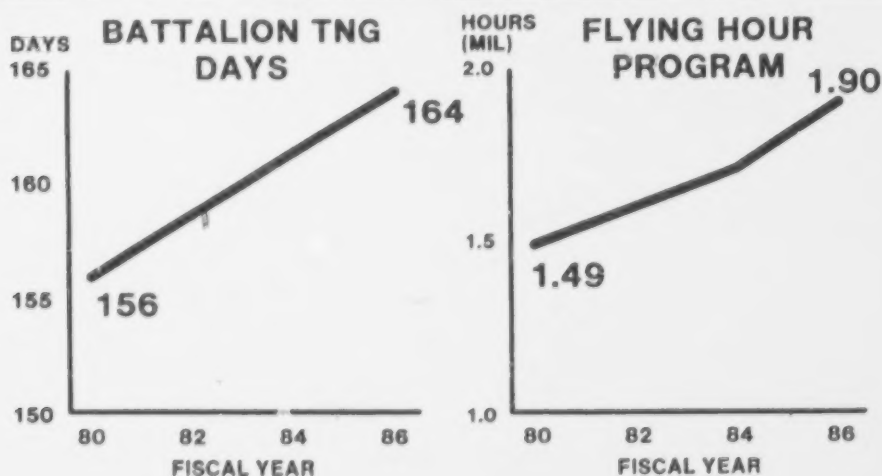
How are we doing with the resources that the Congress has given to us? That is what I want to talk briefly about in the next few slides.

This shows some of the major items of equipment that the Congress has authorized and appropriated. The Bradley Fighting Vehicle; we will have equipped 21 battalions. We will have equipped 22 Multiple-Launch Rocket System batteries, 34 Blackhawk companies, and 35 M1 tank battalion equivalents. The best tank in the world is the M1 tank.

There are many other things that we have not touched on here that are in the budget. Two, I think, are of importance. Mobile subscriber equipment is a major nondevelopmental initiative where we are looking to European capability, already in production, to use in the Army. It is similar to the cellular telephone concept that exists in the United States.

The second one is the light experimental helicopter, LHX. If we don't do anything to modernize the Army's helicopters by the mid-1990's, the average age of our helicopters will be 25 years. LHX is capitalizing on the bow-wave of technology that will reduce the variety and number of helicopters that we have in the Army, but also redress the aging fleet that we have now. It is an important initiative and I urge your strong support for that.

TRAINING READINESS



SLIDE 27

READINESS

We are also improving the readiness of the Army with the resources that have been entrusted to us. You see here that the battalion training days that have been funded have grown from 156 to 164 per battalion.

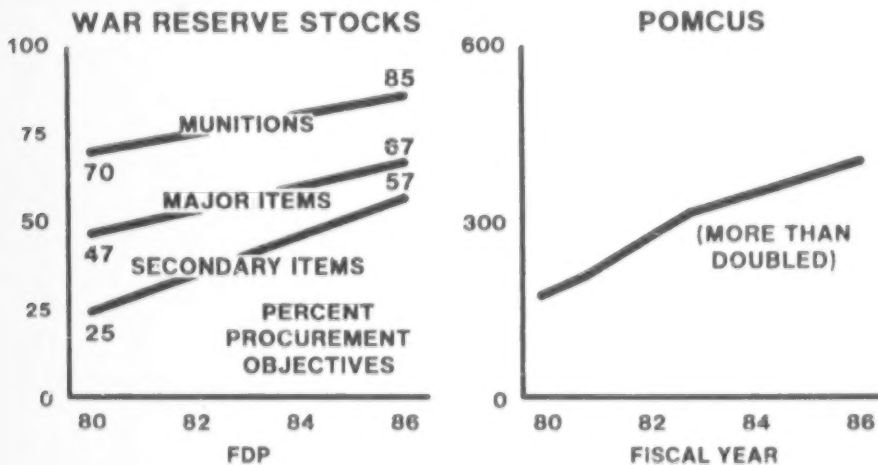
You see the growth in flying hours, up to 1.9 million. That is important to readiness, and put up against the safety record, and you will see that the accidents have gone down with the growth in flying hours. There is a direct correlation.

TRAINING

We are also improving capabilities through simulators at our National Training Center, Fort Irwin, CA, moving from zero battalion rotations to something like 28, including 5 Reserve Component rotations this year. This is the finest training center in the world. It is similar to the Air Force Red Flag at Nellis. It is totally instrumented. It is valuable training.

We have now improved the investment in simulators from \$100 million to over \$540 million, and that not only improves readiness, but it saves money. The trainer for the M1 tank battalion pays for itself in 3 years. Artillery simulators reduce the requirement for training ammunition by 30 percent. So there is much to be saved here in the way of simulation.

SUSTAINABILITY & REINFORCEMENT



SLIDE 28

SUSTAINABILITY

We are also putting enough money into the less glamorous areas of war capability, but those also contribute to deterrence. This is an unclassified chart showing 100 percent of our wartime requirements. If I put the days of supply in here, it would be classified, but it is 100 percent in terms of days of supply.

You see that we have grown in terms of munitions, and 85 percent of our wartime needs are now deployed overseas and purchased; 67 percent of major items, these are tanks, armored personnel carriers, and artillery weapons, such as that. Secondary items

are generators, engines, transmissions, replacement items, and you see the growth there.

In our POMCUS, the acronym for prepositioning of materiel configured to unit sets, the six division sets of equipment that we are obliged to have in Germany, we have more than doubled the commitment of resources for that obligation.

IMPORTANT INITIATIVES

- **CHEMICAL**
 - BINARY PRODUCTION
 - DEFENSIVE MEASURES
 - DEMILITARIZATION
- **STEWARDSHIP OF RESOURCES**
 - ECONOMIES & EFFICIENCIES
 - ACQUISITION & LOGISTICS CAREER FIELDS
 - ACCOUNTABILITY & INCENTIVES
- **JOINT COOPERATION**
 - 31 INITIATIVES WITH USAF
 - LOGISTICAL INITIATIVES WITH NAVY
 - CROSS SERVICE BUDGET PARTICIPATION

SLIDE 29

CHEMICAL

My final point involves these three other initiatives. As the Secretary indicated, in the chemical area, binary production. Gentlemen, if there is an Achilles heel that we have in the Armed Forces, it is in CW, chemical warfare. It is a distasteful subject, none of us ever want to see the weapons used. The way that we see it not happen is to have a deterrent capability. Ninety percent of our stockpile today is useless. Only 10 percent is useful. The need now is to start building binary capability that is stockpile safe for deterrent purposes.

We are talking about money in the 1986 budget, \$160 million, to start binary production for the 155 artillery shell, and for the Big Eye bomb for the Air Force and the Navy. I urge serious consideration of that for the lives of our soldiers.

Defensive measures and demilitarization is a national problem that we have to wrestle with because 90 percent of the stockpile we have to demilitarize.

STEWARDSHIP

I would be remiss if I didn't talk briefly about stewardship of resources. The Secretary and I take very seriously our obligation about stewardship. We worry as much as anyone does about the

high-priced items that we are buying and serious mistakes in procurement.

We have put a lot of resources into trying to improve economies and efficiencies. We think that these can lead to cost avoidance and savings on the order of \$9 billion over the next 5 years, and multiyear procurement, for example, will be a part of it.

We are also now tightening our procedures, have tightened, and continue to tighten in terms of procurement of parts. The Army Materiel Command saved something like \$184 million last year because of tightened procedures on parts procured. We now have career fields for people to start right at the bottom and go all the way up to general officer in the acquisition business and logistics business.

JOINT COOPERATION AMONG SERVICES

Joint cooperation—there is a lot of talk in the media about the fact that the services don't get along, and that they cannot produce cooperative agreements in the Joint Chiefs of Staff. I think that much of that is misplaced, and this illustrates part of it.

Last year, General Gabriel and I signed an agreement after a study of 31 initiatives of roles and missions between the services. We signed an agreement to move on all of those, and others that are still under study, we will all sign up for. These initiatives are likely to lead to hundreds of millions of dollars of cost avoidance, as well as better battlefield interoperability, and to better use of the resources that are given to us.

We have also signed an agreement with the Navy on logistics over the shore.

Probably one of the most significant areas is cross service budget participation. An Air Force general and a Navy admiral sit in on all of the budget meetings of the Army, including those that the Secretary and I are involved in, and vice versa, so that we jointly build the defense budget. We have worked very hard at cross-servicing so that we can capitalize on the resources that are given to us.

THE ARMY'S RESPONSIBILITY IS TO BE . . .



- READY
- FLEXIBLE
- STRATEGICALLY DEPLOYABLE
- TECHNICALLY COMPETENT
- TACTICALLY SOUND
- SUSTAINABLE

. . . WITH QUALITY PEOPLE
& EQUIPMENT . . .

AND SUPPORT FOR THE FAMILY.

SLIDE 30

READINESS

So we have a ready Army. We think that the Army is far improved thanks to the resources that the Congress has given to us. We solicit your support for this budget, and we thank you very much.

[The prepared statement of General Wickham follows:]

PREPARED STATEMENT OF GEN. JOHN A. WICKHAM, JR.
CHIEF OF STAFF, U.S. ARMY

Mr. Chairman, members of the Senate Appropriations Committee.

Thank you for the opportunity to testify on the FY86 Budget. My brief statement provides a status report and builds on Secretary Marsh's remarks which I fully support.

As you know, the peacetime demands for Army readiness have never been greater. (Vu-graph #1). The Army must be prepared to cope with a broad spectrum of threats to our nation's security ranging from terrorism and low-intensity conflict to conventional, and even nuclear, warfare. History tells us that being ready for war is the best way to deter it. In an age of strategic nuclear parity, landpower has become increasingly important as a greater share of the burden of deterrence shifts to modern conventional ground forces. Landpower provides both a deterrent and a war fighting capability, and, thereby, raises the nuclear threshold.

My recent visits to our forces worldwide confirm that today's Total Army is better than last year and substantially more capable than four years ago. However, more remains to be done. As you can see by this Vu-graph (#2), we "lived off the shelf" in the 1970's. This year, we are requesting \$82 billion dollars to continue the essential programs for improving the quality of our forces, for strengthening readiness, for equipment modernization, and for expanding our capabilities to sustain operations.

Readiness is our most important task. Today, we have quality soldiers, the best I've seen in 35 years of service. This Vu-graph (#3) shows the trends of "Quality vs. Indiscipline," key measures of personnel readiness. The trends are extremely favorable. However, if we are to assure a high state of readiness, we must continue efforts to attract and retain quality people in the Army. The Congress has provided solid support and as you deliberate on this year's budget, I urge you to look favorably on people programs which include housing, pay, recruiting and reenlistment incentives, and family support.

Our 1984 theme was The Army Family. It recognized that the Total Army is, first and foremost, people. Fifty-four percent are married. We have 1,200,000 family members, including over 400,000 spouses and 700,000 children (almost half the children are under the age of six). We must provide adequate housing (especially in high cost areas), health care, child care, schooling, and comparable pay and benefits. This Vu-graph (#4) shows what we have accomplished so far. More must be done. The readiness of the Army rests on quality soldiers and their families who feel good about the Army. We must make the most of our human resources. In that regard, the Army theme for 1985 is "Leadership." Enhancing leadership provides a tremendous return on investment.

We will continue to rely on Reserve Component units. This Vu-graph (#5) shows the trends. Their strength is up significantly, and full-time manning is growing to support modernization efforts. The Reserve Components are getting better equipment. For example, seventeen (17) tank battalion equivalents of M1/M60A3 equipment are in this budget for the Reserve Components. In FY84, the Reserve Components received over \$900 million dollars of modernized equipment; and, they will get about \$1.4 billion dollars each year in FY85 and FY86. Training has become more extensive and demanding, including increased deployments for selected reserve units to the National Training Center and to overseas locations.

This Vu-graph (#6) shows OCONUS Deployment Training. The trends for personnel and battalions training overseas are up significantly.

In the active forces, we are embarked on a program that maintains a constant end strength and a proper balance in our force structure between heavy and light forces. This Vu-graph (#7) shows how we have increased the number of combat battalions in the force while maintaining a constant end strength. Internal restructuring efforts, along with unit productivity and technological enhancements, have freed up sufficient manpower to form these additional combat battalions, and more will be formed in the years ahead.

Capitalizing on this additional combat capability, several light infantry divisions will be formed, the 10th Mountain Division at Ft. Drum, New York, the 6th Division in Alaska, and the 29th Division in the Army National Guard. Two standard divisions are being reconfigured to light divisions, the 7th Division at Ft. Ord, California, and the 25th Division in Hawaii.

The Light Division Initiative, as shown on this Vu-graph (#8) gives us increased strategic flexibility. With about 10,500 soldiers each, the light divisions will have a higher "Fighter-to-Support" ratio than existing divisions. They will have the ability to deploy three times faster than the standard infantry division, taking into account the limits of existing air and sealift resources. This Vu-graph (#9) shows the increased deployability of the light division. Early, rapid, strategic deployment greatly enhances our deterrent and war fighting capability. We are working closely with our sister services to close the shortfalls that now exist in our strategic mobility.

The design of our heavy forces is being streamlined. The leader-to-led ratio will be increased and more combat power will be provided to the corps commanders as required by AirLand Battle Doctrine. We also improved and expanded our Special Operations Forces last year by activating a third Ranger battalion, a Ranger regimental headquarters, and a Special Forces Group.

We continue to modernize the equipment of the Active Component, particularly the heavy forces of the Army which are NATO oriented. In the Total Army, for example, over 2,300 Abrams Tanks, 1,400 Bradley Fighting Vehicles, 100 Multiple Launch Rocket Systems and 600 Blackhawk Helicopters have been fielded and all of these systems maintain a higher operational ready rate than the system they replaced. This Vu-graph (#10) shows the increases in units that have received modern equipment. Key research, development, and acquisition programs in the budget include the LHX Helicopter and Mobile Subscriber Equipment.

Modernization of our air defense and chemical capabilities is very important. The recent fielding of the first Patriot Air Defense Battery is the initial step in modernizing the high-to-medium altitude air defense capability of NATO. We also must continue our efforts to find a suitable low altitude air defense weapon to field with our heavy forces. Modern air defense is a major gap in our heavy forces. You have my assurance that no system, including the DIVAD, Sergeant York, will be recommended for fielding unless it has demonstrated that it performs as intended.

Training readiness has improved greatly over the past four years. These Vu-graphs (#11A & 11B) show the progress we are making in terms of battalion training days, flying hour programs, training simulators, and the National Training Center. The trends are up.

The sustainability of our forces, as shown on this Vu-graph (#12), continues to improve. Increasing the prepositioning of equipment in Europe (POMCUS stocks have more than doubled since 1980) and Korea has reduced deployment times and strategic lift requirements. A greater inventory of war reserve stocks will help sustain our combat efforts until the nation's production base can accommodate wartime resupply demands. Gains have been made in these areas; however, we must continue to rectify the shortfalls.

We lack a credible chemical warfare deterrent. (Vu-graph #13). Our nation's defense posture and the recent improvements in our total military readiness could be jeopardized by this single factor on the modern battlefield. We must modernize our deterrent stockpile with binary chemical munitions and rid ourselves of the obsolete and potentially hazardous chemical munitions we currently store.

We are emphasizing the stewardship of resources that are entrusted to us. (Vu-graph #13 cont'd). We have a number of initiatives underway that will improve the acquisition process, force modernization and integration, and resource and information management. I am totally dedicated to assuring that the American taxpayer gets maximum value for the dollar.

In the same vein (Vu-graph #13 cont'd), last year I signed a Memorandum of Agreement with General Gabriel, Chief of Staff of the Air Force that improves coordination on programmed budget priorities, eliminates duplicative functions, and improves joint capabilities in peace and wartime. Similarly, the chief logisticians of the Army and the Navy signed an agreement to strengthen their joint cooperation and improve strategic sealift programs. Service programmers have also signed agreements that improve cross-service participation in the budget and program process. All of these initiatives need congressional support if they are to achieve their fullest potential.

Our emphasis for the remainder of the decade envisions six key objectives: To maintain a steady Active Component strength, to expand our Reserve Component strength, to care for the people and equipment we have, to refine our force structure to enhance readiness, to modernize and fill key voids in combat capabilities, and to improve sustainability of the force.

The Total Army responsibilities are shown on this Vu-graph (#14).

We are creating a "28-Division Total Army" that, in strategic terms, has more utility across the entire spectrum of conflict. Today's Army is proud and ready, and is preparing to meet tomorrow's challenges. With your continued support, we will fulfill the important missions entrusted to us.

Thank-you.

DIVAD

Senator STEVENS. Thank you very much, General.

Gentlemen, Senator Andrews has another subcommittee to chair. He has come here in order to have some questions. I indicated to him that we would proceed with him first so that he can go chair his other subcommittee.

Senator Andrews.

Senator ANDREWS. Thank you, Mr. Chairman.

I am concerned about new information about some serious shortcomings in the DIVAD's basic performance and operation that have been brought to my attention. It seems to be a textbook case of what is wrong in the field of defense procurement and budget management. The information given to this committee made us hesitant about DIVAD's performance to the point where we fenced in the funds in the last DOD appropriations to ensure the test criteria would be met before the weapon went into major production.

We now have stark examples of the weapon's inadequacy, and at the same time we are hearing that the Army intends to spend additional funding from prior years, which we didn't fence, to purchase additional DIVADs whose subsystems, including its fire control, fire power and armament, and primary power unit systems, have yet to meet the required levels of performance set in 1981.

Mr. Secretary, the warranty law we passed in 1984 doesn't apply to the DIVAD, I know that, but the documented history of the weapon's testing failures brings into sharp focus the Army's conscious failure to enforce warranties agreed to as early as 1981. More significantly, it yet again underscores the need for stringent enforcement of our current warranty law.

An examination of warranty and other reliability requirements of the weapon reveal critical flaws in the system. I am sure you are aware of this, and we are becoming aware of it. Failure of the DIVAD to meet its mean time between failure, mean rounds between failure requirements, the inability of the DIVAD to fulfill its basic operational and mobility functions, and the continuing unreliability of the DIVAD's primary power unit.

Even if the concept and design of the DIVAD were sound, these underlying defects would cripple the unit's battlefield effectiveness. The DIVAD, then, is a dramatic example of why warranties should require the defense contractor and the military to state what a weapon will do up front and require it in writing. After the first 10 percent of production, which you have had in the 30-some odd units you have got, you have to begin to enforce performance.

FAILURE OF DIVAD IN COLD WEATHER

Particularly appalling to me coming from North Dakota is that the test results I have just seen say that DIVAD simply won't work in cold weather. History reminds us that the most critical armored battles our Nation has been involved in took place in the winter of 1945 during the Battle of the Bulge. Four decades later, with all of this increased engineering and technique and the rest, test results show that the engine on the DIVAD won't start at 25 degrees below zero.

Test results also show that the system controller, without which the DIVAD system can't operate, had to be heated from 4 to 6 hours with a heat gun before it would successfully function. In fact, during tests in cold weather, these are the test results; Mr. Secretary, we have them, it shows that the gun display showed a gun position 180 degrees from the actual position, hardly reassuring to your reserve units. I would hate to be the follow-up group with a gun position 180 degrees out from where it actually was.

On my farm, I need feeding machinery that will start and operate at 40 degrees below zero or my cattle starve. Unless the new army plans to fight only in the balmy 70 degree temperatures we have in Alaska during the summer, and everything is perfect, it would seem that this implement is far from satisfactory. Test results, Mr. Secretary, also show that it won't operate in hot weather.

FUNDING FOR ADDITIONAL DIVADS

Perhaps most amazing is that despite the Rudman amendment to the fiscal 1985 DOD appropriations bill blocking the moneys to build the DIVAD until it met test criteria, the Army has failed to get the message. We understand that you have \$1.8 billion hanging back there in petty cash to spend on additional DIVAD's.

We also understand that you are building four of them a month, four of them at the cost of \$6.8 million a copy is \$25 million per month. Every 4 months, you rack up another \$100 million on the cash register. Every year, you rack up a third of a billion dollars on the cash register, building these under the failed policy of the Army of "Build now and test later."

Your actions seem to be remarkably similar to those of the French monarchy on the eve of the revolution when it was said, "They had learned nothing and forgot everything." There is also the old Army saying that "it is the blood of the soldiers that makes generals great."

Gentlemen, let me tell you here and now that no American soldier's blood should be spilled by a defective weapon because of your ignorance of your own mechanical problems, or because of a conscious political decision to ignore negative testing results, most damning of all, because of the callous indifference by certain people to these test results that have come while you have continued to produce. Under our warranty law, as I said earlier, you produce 10 percent and you look at them, and then you don't produce more unless performance is achieved.

Why, Mr. Secretary, are you continuing to order additional DIVAD's, four a month, when the first 10 percent that the contract produced clearly don't live up to warranty requirements for performance?

Secretary MARSH. Senator, let me respond to your question this way. You commented on the need to protect the lives of American soldiers. That is the purpose and the reason for adoption of this type of weapon system.

There is a shortfall or vulnerability in the American air defense system for the American divisions, that would be the underlying cause for the development of the DIVAD or Sergeant York weapon

system. When we went into that, it was the Congress that wanted us to go into a program of concurrency in its production. That is in the report language of the Congress, asking us to pursue it in that manner in order to reduce the time that it would take to put that system into the field for the reasons that the Congress recognized, that there was a great vulnerability of our air defense system.

DIVAD ENGINEERING

I also point out to you that about 4 years ago at this time there was enormous criticism of the M1 tank. Because it was in the developmental stage, a number of the problems that were appearing in the M1 tank were remedied, and today the M1 tank is actually rewriting armored warfare in its tactics in Western Europe because of its capabilities.

There have been problems with the DIVAD because of what was sought to be done. There was a decision that was made by engineers that they believed that they could integrate three separate components that had already performed quite well in different fields. Put these three things together and come up with a system that would respond in the manner in which we hoped the DIVAD would. We hope that the DIVAD eventually will.

As part of the testing format that you go through, you disclose the things that need to be corrected. About the one that relates to the cold weather starts, I have a note here that that has been corrected.

FUNDING FOR 1985 PRODUCTION OF DIVAD

Currently, there is no funding for production in 1985 because we want to get behind us a series of tests. I would tell you that the tests that were run on the DIVAD last summer——

Senator ANDREWS. Just a minute, Mr. Secretary. You say that there is no funding for production in 1985.

Secretary MARSH. Right.

Senator ANDREWS. Are you not producing them at the rate of four units per month in 1985?

Secretary MARSH. But that is 1982 money, Senator.

Senator ANDREWS. I know, that is the thrust of what I am saying. You are using money you squirreled away back here, and you are still producing it.

Secretary MARSH. It wasn't squirreled away. It was appropriated by you, Senator.

Senator ANDREWS. I know. Then later we found that the DIVAD didn't work, and we fenced that year's money, last year's money, but we weren't able to fence the money from the year before. So the Army merrily goes along spending \$100 million every 3 months on a unit that its own tests show doesn't work.

Secretary MARSH. It doesn't show that it doesn't work. It shows that there are problems with it. We think that a number of those problems can be fixed, Senator, and I believe that they will be.

We are as concerned as you are about its performance because that is the reason that we are following very closely the suspension while the system will be given a thorough test.

MEAN ROUNDS BEFORE FAILURE PROBLEM

Senator ANDREWS. Why build more until you get a design that will perform? You not only have a cold weather problem, but you have a MRBF, the mean rounds before failure. When we are out shooting, we want to be sure that that particular gun is going to put out a number of rounds. You set a criteria, a required level of 2,000 rounds, an expected level of 2,710. The tests I have show that one weapon failed after 526 rounds, and another failed after 801 rounds. That is about one fourth the performance expected, and you continue to build them without changing the design.

Secretary MARSH. No; it will be changed. They will go back to manufacturer, and he will have to change them. It is the purpose of those kinds of tests.

Senator ANDREWS. Mr. Secretary, are you telling us that the ones that are coming off the assembly line now have the design changes that will make sure that they will work?

Secretary MARSH. Those that do not function properly, we test those systems, and they will eventually go back to the contractor to remedy the errors that we have observed. I will say to you, in those tests, you may talk about the defects between mean rounds between failure, but the weapon system excelled in certain instances of the testing.

The testing that was done last summer was a very shortened test to try and get some data on it. It was not a sufficient amount of testing. That is the reason why Mr. Weinberger insisted that we stop what we were doing, go through the operational tests, and then relook the decision at the end of those tests and see what they show.

Senator ANDREWS. The point is that you have not stopped what you are doing. You are spending \$25 million a month building more of these lemons, aren't you?

Secretary MARSH. Senator, I am not sure at all that they are lemons. We are convinced that we are going to be able to straighten out the problems that you have alluded to.

Senator ANDREWS. They won't work in cold weather, and they won't work in hot weather.

Secretary MARSH. I told you, the information I have is that the cold weather starting problem has been resolved.

USE OF INCORRECT DIESEL FUEL

Senator ANDREWS. I was told a minute before the hearing by General Wickham that the reason that they failed the cold weather start was the fact that they had higher viscosity diesel fuel put in them.

My God, I would hope that the military, you guys have been out in the field in cold weather, you know that you have to have No. 1 diesel fuel and you have to thin it out to make it flow in cold weather, that is basic. Who would ever do a test of any kind of a truck, a car, or a tractor, or a weapon in cold weather without just automatically putting in cold weather fuel.

What you are trying to have me believe is that in response to this committee's action, you went out to test this animal for cold weather operation, and you put in warm weather diesel. That is

not any test at all. You are telling me now that you are sure that on further testing, it will work.

Secretary MARSH. Senator, I have a note here that the cold weather starting problem has been remedied successfully.

Senator ANDREWS. How about the fact that you had to have a heat unit in your computer for 6½ hours before it would point the guns in the right direction, have you got some way of solving that, that is not diesel fuel.

Secretary MARSH. That is one of the areas that will be addressed. Senator ANDREWS. Gosh, I would hope so.

Again, Mr. Chairman, I appreciate you letting me take this time. I am concerned that we are spending \$25 million a month on the same, as I call them for want of a better name, lemons that have not performed in the last tests. I understand that thanks to the initiative of Senator Rudman and the subcommittee there are going to be further tests in June. I would hope that those tests are complete, and I would hope that they make sure that they find what design changes we need to assure performance.

Again, I would hope to go back to what we have put together in the subcommittee, and it is in the law now, that you build a few, you check them over for performance, and you don't start these down the line assemblies until you do know that the weapon lives up to the performance that you deem necessary. These are not the specs you set, they are the specs you set.

Are you assured, general, that the ones that are now coming off the line could work in the field?

General WICKHAM. As the Secretary indicated, I don't characterize the DIVAD as a lemon. It has problems and we are resolving those problems as we go. We only have accepted between 30 and 40 units. They are under warranty. The first three options require the manufacturer, Ford Aerospace, to correct any deficiencies, even after the Government has accepted them, if they don't meet the specs.

The three tests that you are talking about were for the first three fire units that came out of production, unit 1, unit 5, and unit 6. Those tests are very limited. As the Secretary has indicated, the reason that we have gone now to exhaustive testing to begin next month, field operating testing, as well as ongoing initial production testing, is to wring out the problems and see whether in fact we have a system that warrants further production.

The manufacturer, under this contract that we have signed with him, is required to produce four to five a month. He is doing that. Were we to say to him, after he has produced 30, stop producing for a year or more until we get through the tests, then the Government has lost the firm fixed price incentive fee contract. We won't have any commitment in terms of fulfillment of warranties because the manufacturer would have dissipated his whole production base and the trained people.

Four or five units, we have scoped back from the initial requirement which was almost double that, in response to the congressional concern, are necessary, we believe, in order to field enough units to have a thorough wring out this spring on the west coast so we can make a decision. The Secretary would have to make a decision and inform the Congress of which way we go.

Lord knows, Senator, I have given my whole life to the military, and I am not about to go out and buy a piece of equipment that hazards lives of soldiers. I was almost killed myself in Vietnam, and I am as deeply concerned as you are about buying good equipment. If this piece of equipment does not turn out according to the specs that we want of it, we are not going to buy it. But we are going to have to buy something else.

Senator ANDREWS. But you are convinced, general, that you and the Ford Co. that is producing it can hand-fit those that are now coming off the assembly line so that they can meet the performance specs that you expect of it, otherwise you would not continue with the assembly.

General WICKHAM. Yes, sir, that is right.

Senator ANDREWS. You will have a further report, obviously, for the committee after those tests.

General WICKHAM. That is right, sir.

Senator ANDREWS. Thank you very much, Mr. Chairman.

Senator STEVENS. Do any of the rest of you have time frame considerations?

[No response.]

EFFECTS OF BUDGET FREEZE

Senator STEVENS. Let me ask a couple of general questions then.

We have been facing the problem of the freeze as it has been articulated by several Members of the Senate. Have you analyzed the freeze impact on the Army's program for 1986, Mr. Secretary?

Secretary MARSH. Senator, we think that it would have a very significant and very adverse impact to do that because I can tell you that the amount that the Army is coming in for now is significantly less than one that we requested or two that had been programmed for this particular year.

When we look through that program, a number of our production lines are running at the minimum economic rates. A freeze would cause perturbations in those rates. When you get that, you are going to get the increased costs of weapon systems. You get enormous turbulence inside the management of your programs when it occurs. Consequently, it would not be in our interest.

We are still trying to catch up on the modernization program that General Wickham referred to. A lot of our funds go into what we call the quality of life. I would say to you that this committee has been enormously helpful to us in things that relate to personnel and benefits, and we are very grateful to you.

Once you begin to move into the field of a freeze, you are going to undo, in my view, the significant amount that has been done, and you are going to severely retard the readiness program that we are moving toward.

NATO SPENDING

Senator STEVENS. In terms of the urging that we have given to the NATO countries to maintain a 3 percent real growth in their support of NATO, what would be the impact if this country now were to abandon the concept of a minimum real growth, particularly for the Army?

Secretary MARSH. I think, Senator, you point to another very significant point. We would forfeit our position of leadership because we are getting the NATO countries more cognizant of their defense needs and requirements, we are getting them to be responsive and we are getting them to move toward the 3 percent.

When we abandon the position ourselves and begin to slip back, we are going to forfeit a lot of the gains that we have made in NATO. Consequently, I think it would impact not just there, but it would have an impact on the Pacific, too. I think that it would impact on the Japanese.

CIVILIAN MANPOWER, USAREUR

Senator STEVENS. I appreciate the position that the Army is taking on its budget, but I have one question and it is a serious question in my mind. We note that the Army is maintaining its end strength limitation which was imposed, as you and General Wickham have indicated, on yourself. But there is a request in this budget for an additional 9,000 civilians, which would cost about \$100 million, to increase the civilian manpower for the U.S. Army in Europe. Can you tell us why that is necessary?

Secretary MARSH. I think there are several different areas, and General Wickham may want to amplify on it. One, it is a part of our substitution by trying to move out of the military forces certain tasks that can be performed by a civilian force, to free up for combat type service essential slots for the Army.

Senator STEVENS. Mr. Secretary, during the period of time that you have maintained your military end strength, you have had a constant increase in civilian employment, both worldwide, but particularly in Europe.

Aren't you really saying, you are maintaining your end strength in terms of the fighting Army, and at the same time increasing support strength through civilian payroll.

Is it really maintaining the end strength limitation to pursue this policy of constantly increasing the civilians in the Army?

General WICKHAM. If I can just touch on that. As you know, Senator, the Army's end strength in Europe is fixed at 217,000, and your point is well taken.

Senator STEVENS. Military?

General WICKHAM. Yes, military. Part of the ability to maintain that fixed end strength is to substitute civilians for military that might be required in housekeeping duties, people in the postal business, for example. More civilians are involved in dealing with family matters. If we are concerned, as I indicated, about raising family situations, conditions, we have to have some in there.

The modern equipment that we are deploying, there is an increase in terms of the backhaul of the old equipment and the upgrading of that older equipment for its ultimate disposition into the Reserve Components. Therefore, the workloading on our depot maintenance activities in Germany has been increased.

As I indicated we are now putting more resources in prepositioned material, POMCUS. The POMCUS sets have gone up to the six that the Congress has now authorized to move there. As we put

more resources in Europe, there are civilians involved in the maintaining of those resources in the humidity controlled warehouses.

Those are many of the reasons why there has been a growth in the civilian manpower in Europe. We would expect that in time we ought to approach some level of capping off civilian growth because we ought to be able to capitalize on productivity enhancing technology with civilians just the way we are with the military.

Senator STEVENS. But from a budgetary point of view, the impact is the same as if you hadn't maintained end strength.

RESERVE COMPONENTS

General WICKHAM. You can say that. If you take a look at the Reserve Component, there is a growth there in the Reserve Component. I, right now, can't give you a specific answer as to how much of that growth in civilians is in the technicians of the Reserve Component, fulltime technicians. Some of it is in there, and we need to do that. If we are to increasingly rely on the Reserve Component, you have to have an increase in density of fulltime manning, and some of that will be in technicians.

Senator STEVENS. We thought we had reached an agreement to curtail the rapid increase in costs of supporting our forces in Europe. It now appears that the cost increase is coming in the civilian sector rather than in the uniformed sector.

NATO SUPPORT

Could you provide the committee with the total cost of the NATO support for your 1986 budget request? We have indicated that nearly \$3 billion of the request is for O&M in direct support of the Army in Europe. We would like to identify the total cost of NATO support, if you would.

General WICKHAM. We will break out the total, sir, into various components.

[The information follows:]

EUROPEAN SUPPORT

The total Army cost in support of NATO for FY 1986 is estimated at \$10.4 billion. This includes the pay and allowances for our military personnel stationed in Europe.

Regarding the stationing costs we have reduced our European forces to comply with the ceiling established by the Congress. We are conscious of the need to reduce costs wherever possible and therefore emphasize economies and efficiency throughout the Army. Within the European community, we have made maximum use of existing facilities and only request authorization for new projects which are essential or not eligible for NATO infrastructure funding.

We are holding ongoing discussions with our NATO allies regarding common defense initiatives. They recognize the NATO alliance as a high priority requirement and there has been an improvement in their overall defense posture.

Our commitment to NATO is projected to continue at the current level when we consider the Army's mission in our national defense and the need to maintain an effective deterrent force in Europe.

CIVILIAN COMPONENTS IN EUROPE

Secretary MARSH. We will, and we will show you the civilian. I don't think the civilian in Europe is that large really.

General WICKHAM. I don't think that 9,000 is right.

Senator STEVENS. Nine thousand is the increase according to our understanding of your budget request, an increase of 9,000. I think that this includes in-country as well as U.S. civilians. It is a substantial increase for 1 year in our judgment, and we would like to see your figures.

General WICKHAM. We will break it out.
[The information follows:]

CIVILIANS IN EUROPE

The civilian manpower for the US Army in Europe does not increase by 9,000. The Army's civilian end strength (direct and indirect hire) in NATO European countries increases from 78,189 in FY 85 to 78,417 in FY 86. The total increase of 1,228 is attributable to Base Operations support for new systems fielding and civilian substitution (+746) and ammunition supply management (+482). A part of this increase is offset by a reduction in the military end strength from 217,068 in FY 85 to 216,834 in FY 86 (-234). The net increase to NATO European countries is 994 for military and civilians. This does not include nonappropriated fund personnel.

DIVAD PRODUCTION

Senator STEVENS. Senator Rudman.

Senator RUDMAN. Thank you very much, Mr. Chairman.

Mr. Secretary and General Wickham, just to clear the air on the Sergeant York, when our amendment was adopted by this committee at the initiative of the chairman and myself, the decision to leave that line open, I think, was made in consultation with the Army on the basis that were we not to do that, and the tests subsequently were to turn out correctly, the cost to the Government would be enormous. Is that correct?

Secretary MARSH. Yes, sir.

Senator STEVENS. The Senator is correct, that was a studied decision not to lose the contractual arrangement that existed.

DIVAD TESTING

Senator RUDMAN. Because of this committee's interest in this, I think it might be well, General Wickham, just briefly, I don't want to spend a lot of time on this of the time I have—I have followed this closely, and I have been in constant contact with you and your people. My understanding is that the nature of the tests that are scheduled for April and May of this year, however long it takes, are unusual in terms of tests the Army might normally run as far as the technology being used. Could you, to the extent that classification allows, just describe what those tests are going to be?

General WICKHAM. Yes, sir. There are two categories of tests. One is an initial production test, using eight fire units from Ford Aerospace, going through all of the capabilities, testing them against the requirements.

The second test involves another eight fire units in an extensive Blue or friendly force against a Red or enemy force. The Blue force will be protected by the DIVAD and Stingers in combination, including M1 tanks and Bradley fighting vehicles. The Red force involves helicopters to appear to be the equivalent of HIND-Ds, and fast moving fighters. The performance of the DIVAD and the Stinger combination in protecting the Blue force will be measured against the standard Vulcan and Stinger mix to see how much

better it does in defending the Blue force, and it must do much better in terms of the modules and the algorithms that we have developed here.

That kind of solid test in a field environment with soldiers, fully instrumented, obviously, we don't want to shoot down aircraft, so the instrumentation has to be very, very carefully done. The test is likely to cost the Army \$81 million or more.

Senator RUDMAN. It is my understanding that the instrumentation, in many cases, is instrumentation that has been developed by other services for very sophisticated tests of high speed fighter activities, naval air activities.

General WICKHAM. Yes.

Senator RUDMAN. So the actual firing results are not going to be observable, if you will, and subjectively decided by the umpires. They are going to be electronically computed as is the standard in the services for electronic measurement of firing effectiveness. Is that correct?

General WICKHAM. Exactly, and probably in some ways more accurate and more easily understood in terms of the effects, and that all will be reported. Part of the process will involve Mr. Weinberger's own staff at every step of the way so that the data, as it comes out and is purified, will be a basis for him making a solid decision and coming to the Congress about it.

Senator RUDMAN. It is my further understanding that if in fact the standard that those tests reveal does not exceed by a substantial amount the present standard that you are using, the Army will have to seriously consider two things. Number one, what is it going to do for air defense for the divisions, which obviously you don't have; secondly, are you going to have to do some major deauthorization of funds that were appropriated by the Congress in past years. Is that correct?

General WICKHAM. That is correct. As to the former point, we are looking at some alternatives to the DIVAD for near-term and long-term that will be necessary if DIVAD does not perform up to its expectations.

Senator RUDMAN. In fact, the 9th Infantry at Fort Lewis, the so-called "Test Bed Division," has been working with a number of alternatives.

General WICKHAM. Yes; and those alternatives, or some of those alternatives will be given limited tests to the extent we can.

RUDMAN PROPOSAL

Senator RUDMAN. General Wickham and Secretary Marsh, I just want to go to another subject briefly because a lot of colleagues here have many questions.

As you know, I have made a major proposal for reduction of the defense outlays over a 3-year period of about \$21 billion. The choice is not necessarily a happy one, but it is a choice between three alternatives: (a) stretch out or cancellation of programs; (b) a substantial impairment of the readiness that you demonstrated, I think, so effectively, which I have observed personally of your forces; (c) some changes in the way we use personnel.

I think the Army is an excellent example of the kind of thing I think can be done. You may think that you have done all you can, and I may not agree with that. You might describe, if you would, for the committee, because I think I would like to have it in the record again, the fact that you have created a great number of additional combat battalions, two entire divisions, your light divisions, by essentially reducing the so-called "tooth to tail" ratio, and taking people who are in indirect support positions, moving them out of those positions into combat roles, essentially tightening up on the force.

Could you describe how you created two new divisions without getting an increase in end strength from the Congress?

General WICKHAM. Yes, sir. You are exactly right, we are trying to discipline ourselves to capitalize on technology. We have not done a good job of that in the past. We have more communicators in Germany than infantry, something is wrong, and what we are doing is reversing that. We are going to be able, we believe, to take out something like 5,000 communicators, and because of technology, we are still going to have an improved capability.

Hundreds of cooks, supply clerks, we think stevedores, we hope to be able to reduce the support tail of the Army by something upwards of 20,000. I am very optimistic about that. With technology, we can drive those soldiers into combat capabilities. That is where the two divisions came from, and the Ranger battalion, and the enhanced Special Forces groups.

Your proposal, which does have merits in its own right, as you indicated, would ravage what the Army has been attempting to do because it would say, now you need to cut more. We have already tried to do that. Therefore, for us, in a hypothetical way, to have to absorb a fair measure of support reduction would really unhinge what we have attempted to do, and probably create an imbalance that would lead to warfighting deficiency.

CIVILIAN FORCE IN DEPARTMENT OF DEFENSE

Senator RUDMAN. General Wickham, I will not take you on that point because, the fact is, you make a valid point, and I was aware of that when I put this proposal together. The Army has done precisely what my proposal calls for, and has been doing it for 2 years. I might say that there is nothing particularly original about my proposal. The fact of the matter is that the Army has set the model for it.

The fact of the matter is that when you talk about the "tooth to tail" ratio in Europe, when you talk about the number of communicators, the one thing that you do not talk about, of course, is the civilian force in DOD and in the Department of the Army in particular.

I would submit to you that the same kind of efficiencies that you are applying to your force ought to be applied across the board to civilian personnel because the choices are not happy choices, General Wickham. They are either cutting your strategic and your mobility and tactical forces, cutting your readiness, stretching out your programs, or making some kind of improvements in personnel

use. Those are the choices, and I know that I will have your cooperation in trying to develop that.

I think that this is all I have. I have had a lot of good discussions with General Wickham, Mr. Chairman, and I think that the Army really has done something remarkable in creating these battalions. As I said, I think General Wickham can probably do more, but that will be the subject of another discussion. I think that the Army has set, if you will, the model for what the Air Force and the Navy can do to meet the proposal that I have now before the Budget Committee and this committee.

Thank you, Mr. Chairman.

Senator STEVENS. Thank you, Senator.

Senator D'Amato.

10TH DIVISION

Senator D'AMATO. Thank you, Mr. Chairman.

Mr. Chairman, Secretary Marsh, General Wickham, along with Senator Moynihan, and I were at the 10th Infantry's unveiling at Fort Drum, an initiative that this committee supported in terms of developing a light infantry division. It was quite an inspiring ceremony.

It is nice, of course, to have General Carpenter in charge again. It is a great thing for New Yorkers to see General Carpenter come back where he scored so many great successes on the ball field at West Point.

LIGHT INFANTRY DIVISION [LID]

Let me ask you, General, or Mr. Secretary, where does the light infantry division initiative rank in the Army's order of priorities, obviously, I am concerned with respect to the implications, given the budget considerations and priorities. How would you stack that up?

General WICKHAM. Sir, as I indicated, and as Senator Rudman indicated, the light division is being formed from within the existing resources of the Army. We would have to put our soldiers in the battalions of the division in barracks some place. If we are going to take care of soldiers, it ranks very high in terms of the Army's priorities. The equipment for the light divisions is basically coming out of the Army's equipment, so that ranks very high, the continued modernization of the Army. I would rank it very high in general.

Secretary MARSH. Senator, I might add to that. General Wickham speaks for the uniformed forces. That interest and emphasis that he has been the principal architect enjoys the complete support of the Army Secretariat, and indeed the Defense Secretariat. There is enormous support and interest behind it. Viewing the military side from my vantage point, I find enormous excitement and interest in the uniformed military forces for the concept. I think that it is here to stay, sir.

Senator D'AMATO. As you indicated, the rapid deployment that comes about as a result of that capability is something that is certainly necessary in this day and age.

FORT DRUM FUNDING

Let me ask you. I notice that in an effort to achieve cost cutting, you embarked upon a new planned concept to build and lease. Having the private sector come in, build, and then lease back, particularly in the area of housing to the military. Is there under the current law authorization for that kind of program, or will you need any legislative initiatives to make that possible?

Secretary MARSH. Senator, I think we need to have 801 and 802 either extended or reenacted into law. It is currently in law, but I believe those two very essential provisions will expire. They are extremely necessary in the Army's housing program, one is build and lease, and one is a system whereby you set aside a group of houses for which you will guarantee leasing. It is very essential that we have the extension of 801 and 802.

I would say to you that there are other forms of third party financing that we are looking into with the State of New York and with the county and regional authorities in the town around Fort Drum, one that relates to electrical utilities, and one that relates to municipal utilities, such as sewer and water and this sort of thing.

There is a whole arena of these that we are looking into, and it may be that as we get into that, I do not know now, but there may be some legislative permission that may be required for us to participate in that, sir.

Senator D'AMATO. Again, Mr. Secretary, I think that one of the things that we should point out, this is in an effort to reduce cost. It is cost cutting?

Secretary MARSH. We are trying to reduce the capital investment of the U.S. Government by going that route, sir.

Senator D'AMATO. Would you submit to this committee any of those proposals that you may have, I think this is the appropriate time to try to get some details.

Secretary MARSH. I will be happy to do it, sir.

Senator D'AMATO. Thank you very much.

[The information follows:]

FINANCING CONSTRUCTION AT FORT DRUM, NY

Family housing is being obtained through normal Military Construction programming in combination with the build-to-lease program authorized by Section 801, PL 98-115. New York State initiatives to support private housing construction in the community are also underway.

We also anticipate that part of the utilities systems will be financed with assistance from the State of New York using a public municipal authority.

For the construction of all other facilities we are considering the following four options:

Option 1. All on-post facilities, except those appropriate for nonappropriated fund or trust fund construction, to be built with military construction appropriations. The estimate for this traditional construction program is eight years to complete. Construction period will start in FY 1987 and all facilities will be in place by FY 1994.

Option 2. All on-post facilities (with the exceptions noted above) to be built with military construction appropriations in a reduced construction period as compared to option 1. This option envisions full authorization and a level of appropriations that allows construction placement to be the pacing factor. The current estimate for construction is three years.

Option 3. A private entity (entities) would be responsible for financing, designing and constructing the facilities (with the exceptions noted above) (for occupancy by FY 1988) and for operating and maintaining them for a thirty-year period thereof.

ter. Over this thirty-year period the Army would pay the contractor an annual amount consisting of: (1) the annual cost of operation and maintenance of the facilities (indexed to the cost of utilities and the labor rates associated with this function); (2) amortization of the cost of the facilities and; (3) a management fee. At the end of the thirty-year period, title would pass to the Army. This option requires special legislation, Congressional authorization and appropriation, and would be supported by short-term private sector construction financing as well as longer-term mortgage holding by a trust fund, financial institution, bond bank agency, or similar arrangement.

Option 4. As in options 2 and 3, construction placement would be the pacing factor, with completion by the end of FY 1988. Assuming Congressional authorization, and a three-year appropriated fund payment schedule to buy out the contractor's placement, we are advocating a multi-year procurement program which, by using up front contractor financing, takes advantage of the economies of doing the whole project under one or more contracts and has the efficiency of capitalizing the facility in the shortest period of time. Under this option, the facility construction (with the exceptions noted above) will be paid for out of appropriated funds on a turn-key basis.

Decision as to which option will be followed is anticipated by mid-April 1985.

READINESS AND SUSTAINABILITY

Senator STEVENS. Senator McClure.

Senator McCLURE. Thank you, Mr. Chairman.

Thank you, Mr. Secretary, and General Wickham, for the outstanding presentation. I have one rather general question, and then two or three specific ones. The general one, perhaps, first.

Could you again briefly run through the specific factors showing that Army readiness and sustainability has increased?

General WICKHAM. Yes, sir. Do you want me to use the charts?

Senator McCLURE. Whichever way you wish to do it.

General WICKHAM. Let me run through those charts again on readiness.

Senator McCLURE. Readiness and sustainability.

General WICKHAM. This shows the sustainability, and reinforcement capability. I indicated 100 percent here, I have to leave this in the unclassified version, and 100 percent equals a certain number of days of supply. All of you know what that involves.

This illustrates what we have done, going from 70 percent to 85 percent of wartime requirements deployed overseas, that is ammunition in Europe and that is ammunition in Korea. As you know, we procure ammunition for the Korean Army. It is the only country that we do that for, and it is in that figure there.

Major end items, tanks, armored personnel carriers, artillery pieces, from 47 percent to 67 percent of our wartime deployed overseas. Secondary items, generators, replacement parts for vehicles, from 25 percent up to 57 percent, which is a substantial increase. It is less glamorous, but it is important in terms of deterrence, as well as the ability to fight and win.

The same is true of those, too, in terms of our ability to get our forces to Germany quickly. We prepositioned sets of equipment, six of them for the divisions. We have more than doubled the resources that have been put into there.

In terms of readiness, what we have done is improve the training days for our battalions.

Senator McCLURE. Yes, I remember that.

General WICKHAM. This improves readiness across-the-board, from 156 to 164 funded training days. It means that the battalions

can get out in the field more and exercise more. It means that they are involved in more joint exercises as well.

The flying hour program also contributes to readiness. This enables us to undertake exercises, such as in Honduras, or unprecedented kinds of activities or unforecasted activities with an unbroken flying hour capability.

SIMULATION

Secretary MARSH. Show the chart on the simulation.

General WICKHAM. Simulation is another way of improving readiness. As the Secretary indicated, this is a program to continue because we think there are a lot of efficiencies to be derived from technology. As Senator Stevens said, we ought to do a better job with our civilians, and I think we have a way to go on that.

Simulators, to prove a point, the M1 simulator, putting an M1 simulator in every M1 tank battalion, it pays for itself in 3 years in terms of ammunition saved. The artillery simulators have reduced by 30 percent the rounds we need to fire for annual qualification to maintain proficiency.

The simulators we have for our helicopters enable us to train an antitank gunner in a TOW helicopter without ever firing any TOWs, it is so efficient. You need to go out and fire a TOW or two so you realize that they work, but it is very efficient.

The training days at the National Training Center went from zero to 28.

This sort of summarizes it.

Senator McCLURE. Thank you, General.

AIRLIFT FOR LIGHT INFANTRY DIVISION

You have outlined the movement toward the light infantry divisions. How much will Army's airlift requirement be reduced by that shift, if any?

General WICKHAM. Actually, we are converting two divisions to light, the 25th and the 7th, and that will reduce somewhat the lift requirements. The additional divisions we are creating, the 10th Mountain Division and the 6th Division in Alaska, will to a degree compensate for that reduction.

I think the answer to your question, however, is not so much in force as it is in equipment because lightness goes beyond organization. Lightness goes to how we build our equipment. One third of the weight of our ammunition is simple packing and crating material, we have been doing it like this since the Civil War days. Now we are starting to pack with plastics and that is going to save 20 to 30 percent of the packaging weight of ammunition, which is the single heaviest item that we have to ship overseas and move around the battlefield.

The M-198 medium artillery piece, the 155 artillery piece that weighs about 17,000 pounds, we believe that with composite materials, we can make that artillery piece less than 10,000 pounds. That is going to save us weight for deployment and for tactical mobility, and it is going to save the Government money. But we need to get that into our process of acquisition of equipment, and we have now done that formally, the Secretary and I.

CHEMICAL WARFARE

Senator McCCLURE. I want to turn for a moment to one of the issues that has troubled the Congress in its decisions, perhaps as much as any other decisions, chemical warfare.

The administration has testified on the need for binary chemical munitions deterrent and for defensive measures as well. That statement has been strong, and I think that it necessarily must be strong if Congress is going to react favorably to that request.

I notice that the fiscal year 1986 defense posture statement states on page 281, and I quote, "Although we no longer believe the Soviets intend to use chemical weapons on a massive scale, the selective use against special targets cannot be ruled out." That seems to be at odds with the statement that is made by the administration in support of the need for binary weapons and defensive measures.

Secretary MARSH. Senator, I will ask General Wickham to add to my comments, but if you look at the composition and organization of the Soviet Army, and the units in the army that are dedicated to chemical warfare purposes which can be found in the army and clearly can be identified, if you look at the Soviet doctrine and tactics as they have been written, you would have to conclude that that is a possible tactic that would be employed against the NATO forces, assuming they did not have the capabilities to retaliate. I don't think that we can discount that.

Senator McCCLURE. Mr. Secretary, the reason I ask the question is, you have indicated that our stocks, the ones that we have, are only 10 percent usable. I think we also know that our defensive capability, the way to shield our troops in the field, is lagging behind apparent need if there were to be a massive use by the Soviet Union, and it needs to be changed. I think you have testified that it does need to be changed.

I was a little puzzled by the statement in the defense posture that says, "Although we no longer believe the Soviets intend to use chemical weapons on a massive scale, the selective use against special targets cannot be ruled out." What is the basis for that statement? What is there that indicates that they don't intend to, or that we don't need to be prepared for a massive use threat?

General WICKHAM. Let me give you a classified answer to that in the record.

[CLERK'S NOTE: Information requested is classified and was furnished to the committee separately.]

Senator McCCLURE. All right.

General WICKHAM. But let me try to summarize it simply. There is some debate within the intelligence community based on knowledge that we have about how the Soviets may plan to use weapons. The Secretary indicated, we know they have substantial capabilities, and we know from their doctrine and we know from their activities in Afghanistan and elsewhere that there is a proclivity to use those weapons. So we have to deal with capabilities. That is the point that I make. In order to deter those capabilities, we have to have that binary capability ourselves.

Senator McCCLURE. It seems to me that the appropriate statement is that we don't believe they will use it if we have a sufficient de-

terrent capacity. If we have no sufficient deterrent capacity, we have every reason to believe they might use it.

Secretary MARSH. I agree with the way you stated that. I wish I had thought of that.

Senator McCLURE. The reason I ask that is that there seems to be a tendency to try to explain away Soviet behavior when it seems obnoxious to us. There can't be anything more obnoxious than the use of chemical weapons, and yet, both on an unclassified and classified basis, any reasonable person looking at the evidence has to conclude they haven't ruled it out.

Secretary MARSH. Right.

Senator McCLURE. I think we must have a clear understanding of that if, indeed, the Congress is going to respond with any kind of offensive capability as a deterrence, and defensive capability to protect our own troops.

Secretary MARSH. That is why I characterized it as an Achilles heel, the lack of retaliatory capability.

Senator McCLURE. I agree with you on that. We saw the chemicals first used on massive scale in World War I, and they were not used on a massive scale in World War II. I think that most people looking at that believe that it was not because the character of humanity had changed in the interval, but because there was a capacity to inflict unacceptable damage on anybody who started to use it, therefore, it was not used.

Deterrence worked in World War II just as deterrence has worked in the interval from the end of World War II until the present time to bring a relative stability and relative peace to the European theater.

BRADLEY PRODUCTION

Doesn't military doctrine or armored mechanized doctrine indicate that the Bradley fighting vehicle production rate ought to equal or exceed that of the M1 tank?

General WICKHAM. The rate is roughly that now—it isn't really. The Congress has urged that we produce 840 tanks versus 720, which the administration previously requested. The Bradley is running around 716 a year. The fielding of the Bradleys and the M1s, in those ratios of production is consistent with the fielding plans.

Senator McCLURE. Wouldn't be more comfortable if they were more nearly equal or if the Bradley equaled or exceeded the tank production?

General WICKHAM. I think if we had a higher rate of production, the Bradley would cost us less per Bradley. In that sense we would like to have a higher production. The change in 720 to 840 M1 tanks is \$53,000 per tank cheaper. But in building the budgets, we have to strike a balance in terms of all of the programs, and we have struck that balance in terms of the M1 and the Bradley production rate.

Senator McCLURE. I want to note again, and I think this is not classified material at all, the Soviets, we are arguing about whether the production rate of the M1 tank should be 700 or 800 a year, and they produce 3,000 a year.

General WICKHAM. Exactly.

Senator McCLURE. Six thousand, and they outnumber us already 6 to 1.

General WICKHAM. Yes, sir. You have roughly 50,000 Warsaw Pact tanks versus 15,000 on NATO.

Senator McCLURE. Thank you very much.

Senator STEVENS. General, I have noted your comments and the Secretary's about the chemical items. We went down that road twice, and the House has not responded. It is my judgment that if the House would change its position and respond to your pleas to be certain that we have the capability to deter the Soviets' use of chemical weapons, the Senate would once again approve your request.

I have to tell you, we have no intention of taking an item to the floor of the Senate until the House acts. We lost a lot of other items in the fight over the chemical item, and I don't see any reason to go that route again, but I do agree with you.

M1 PRODUCTION

On the M1 tank, you have both mentioned that, we have a proposal here for a multibillion/multiyear contract to keep the rate at 840 per year.

General WICKHAM. Right.

Senator STEVENS. I remember that the President's original request was to ramp up to 640, then we went to 720, and then we went to 840. To keep this production rate at 840 is going to take at least \$3.7 billion to sustain that production rate. At a time when we know we are going to face some reductions, why keep the M1 tank production at 840, why not come back to 720 which at least on two occasions you appeared before the committee and testified in support of the 720 rate. Why should we put the 840 into a multiyear procurement contract now.

Secretary MARSH. One reason, Senator, the 840 rate, as General Wickham just mentioned, saves you \$50,000 to \$53,000 per tank. Second, there is something to be said to accelerate the introduction into Europe because of their tremendous capabilities. The tank will even be more capable now because most of the ones that will be built now will have the 120 millimeter on it.

I think the desire to expedite the fielding, introducing them into the National Guard, all of these are factors that drive and support the 840 rate, sir.

Senator STEVENS. Mr. Secretary, unless my arithmetic is wrong, when we are borrowing money to finance this budget, when we are in a deficit situation, by definition our income does not equal our outgo. These tanks are costing us \$2.5 million apiece. That is \$250,000 a year in interest at 10 percent. So your savings are one-fifth the cost of buying them ahead of time.

We made the record that 720 was enough. However, I am told that we are not totally ramped up to 840 yet. They are just going up in July to 840. Why don't we insist on having a 720 production rate. You protect at least \$300 million of the rest of your budget by doing that. Why sustain this production rate at 840?

It is not just the Army. We are producing four attack submarines instead of two. We are producing three cruisers instead of one. If

you look at these, Congress ramped up these production rates, and that bow-wave is pushing us into decisions now that will deny you your civilians that you need, that will deny some of these new readiness items because of this increased production rate across the board. I think the Army ought to take the lead and say, 720 is sufficient. We hope to hold that.

You understand, I much rather see the cuts come in areas where they really reflect prior judgments of the services than to come in areas where really the cuts will hurt. Having said that, let me turn to LHX.

PROGRAM COSTS OF LIGHT HELICOPTER EXPERIMENTAL [LHX]

The LHX, as I understand it, will be greater than the B-1 bomber program. At \$6 million apiece, 5,000 helicopters is going to cost us \$30 billion. Have we really examined what going into LHX will mean to us in terms of this budget, particularly the rate of procurement and the timing of that procurement as far as this development is concerned?

General WICKHAM. Sir, let me answer that in terms of two aspects. I mentioned in my initial brief that in the mid-nineties, the average age of the Army helicopter fleet is going to be between 20 and 25 years. So we have a need to replace helicopters in order to bring that average down. We have to do something, either a non-developmental initiative or to capture technology with a new design.

The second dimension is that we need really to look very hard at capturing technology because we are at the point where the Soviets are making full use of technology. They are about to field a new helicopter, the Havoc, which is very sophisticated and very capable in terms of air-to-air combat, as well as ground capability.

The bulk of the Army's fleet is in terms of Scout helicopters, light type helicopters, light utility helicopters, the Huey, the so-called UH-1, and command and control aircraft. We believe that by pursuing a technological initiative in terms of a more modern engine that is lower in fuel consumption, higher lift capability, an air frame that is based on composite materials, a lighter air frame, perhaps a single pilot drive, capturing the avionic capabilities that are already extant in the F-16, for example, and the F-15, single-pilot capability, and capitalizing on new technology in terms of rotor capabilities, we can build a helicopter for something on the order of \$5 to \$6 million which would be cheaper than the Apache, and cheaper than the UH-60.

That is what is involved in the LHX; to build a single-type of an aircraft that can fulfill the Scout, the light utility and light attack capabilities for something like 5,000 of the fleet that we have now.

Senator STEVENS. How many do you have now?

General WICKHAM. We have now roughly 8,400 helicopters in the Army.

Senator STEVENS. Supposing that this one LHX had 5,000 copies, as I understand it, if we go ahead with this budget the way it stands now, the request in 1987 will be enormous.

General WICKHAM. The moneys that we have in the 1986 and 1987 budgets are largely R&D monies. R&D moneys in the air-

frame, R&D moneys in the engine, R&D moneys in terms of composites, and the avionics, the ability to fly and make use of a single pilot.

Senator STEVENS. We are going to go from two pilots to one pilot, but the R&D is going to total about \$3 billion.

General WICKHAM. Four.

Senator STEVENS. Four?

General WICKHAM. Yes, sir.

Senator STEVENS. That has got to be done before 1988.

General WICKHAM. No, that will stream out that research and development because we don't forecast any kind of initial operational capability until 1993 or 1994. If the plan goes, we might have some prototypes for flying in the early 1990's, but no production until the mid-nineties.

Senator STEVENS. I think we could support a concept of going to one pilot, and putting into this new helicopter the most advanced technology we can, an all-weather, all-hour helicopter, antitank, and the scout unit. But when it comes right down to it, the problem is phasing in this new \$30 billion into this budget process without getting us to the point where it is going to be ramped down because of the deficit battle.

General WICKHAM. You don't have to make a decision on production yet, sir, just the research and development. I think the Congress should be well advised to let us do that research and development. Then, as the thing matures, decisions can be made as to whether we will produce and how many to be produced, and to demonstrate to you that it would be cost effective.

Senator STEVENS. You are getting your competition in R&D rather than in production. There are two separate competitive developments going on in LHX, that is what is driving this up to \$4 billion. I thought it was \$3 but it is \$4 billion. You know what Everett Dirksen said, and he was talking in millions, now we are talking in billions, you have one here, and one there, and pretty soon, you have real money.

General WICKHAM. By the two competitive elements, you are talking about tilt rotor and standard rotor craft?

Senator STEVENS. Yes.

General WICKHAM. The Army wants standard rotor craft. The tilt rotor, we don't need that speed for the LHX.

Senator STEVENS. We see two separate developments in any event, whether it is tilt rotor or otherwise. Incidentally, I have to tell you that from the point of view of the future, it seems to me that tilt rotor is the real wave of the future as far as the civilian application of helicopters.

General WICKHAM. JVX will handle that side. To try to develop a mini-JVX would be very complicated. In terms of the envelopes of activity that we think our Scouts, light attack aircraft and utility aircraft need to fly in, a mini-tilt rotor is not necessary. It is too expensive and high risk technology we think.

The idea of a multiple developmental process is designed to try to drive down costs.

TWO SEPARATE DEVELOPMENTS IN LHX

Senator STEVENS. I didn't know you were locked into a tilt rotor versus a normal helicopter concept in R&D. Our records show that LHX is planned for two developments in R&D in any event. Then when we get to production, we have two in terms of production in the outyears, which we understand competition. When it is fully producible in the sense of getting out of sole source concepts, that is good. Why do we have two separate developments going on in terms of LHX through the period of 1987 through 1991?

General WICKHAM. Let me give you a definitive answer for the record. The simple answer is that we are trying to capitalize on the industrial intelligence and intellect in building the best capability. This is a substantial investment, if it is authorized downstream, and that is the reason for multiple paths in an acquisition strategy. [The information follows:]

LIGHT HELICOPTER FAMILY [LHX]

LHX is much more than just a helicopter. Well over half of the cost is in the electronics and integrated system. The competition in development is to get us the best system at the best cost. Without a competitive development we would be starting out in a sole source environment on the largest development we have ever begun. Furthermore, the interest in this program is enormous. We intend to use this competitive leverage to our advantage by fostering innovation and cost discipline into the development. We will get a better product at lower risk and total life cycle cost. The price of competition in development is returned several fold when we buy the LHX. The Army firmly believes that the competitive strategy is the best approach for LHX.

SECOND DEVELOPMENT COSTS

Senator STEVENS. Over half of the R&D costs are in the second development, and that is the period of time when we are going to have really constrained budgets. Some people think that this budget fight is over this year. We will be here in 1987, in 1988, in 1989, 1990, and God willing, we will be here beyond that, you and I. Maybe you won't, but I will.

[General laughter.]

General WICKHAM. I hope that that is no reflection on how I am doing today.

[General laughter.]

Senator STEVENS. No; sir, it is just that you young men can go on and get other positions.

General WICKHAM. No, sir, I am not a young man any more.

Let me give you a definitive answer.

Senator STEVENS. I am being serious now, the concept of going dual production in R&D seems to me to be totally inefficient in this kind of a new development. I would urge you to find some way to eliminate that level of competition. Competition in production is understandable. But competition here in R&D, I think there ought to be some way to get those people working together on the same concept, rather than having a competitive conceptual R&D. As I understand it, you have two separate R&D lines, in effect.

ENGINE DEVELOPMENT

General WICKHAM. For example, the engines will be Government furnished. We will have someone developing the engines, and we have R&D with the engines now. It is like the tank. The tank engine is produced by another manufacturer, the Government buys it, and we issue it to the tank assembler. We may be referring partly to that kind of a process.

Senator STEVENS. Don't get me started on that tank engine competition issue. The way it was sold finally, I hope we are not going to see that again. We are going to come to that one of these days in relationship with those competitors.

This one, it just seems to me, you have \$4 billion in R&D, and the bulk of it comes because there are two layers of R&D going on. You haven't made the decision of whether it is one pilot or two. You just now said that it is not tilt rotor, and that eliminates one concept, but you still have two concepts going on. You are asking us to fund to separate levels of R&D to get to the LHX, and we don't know why we couldn't slow down this R&D effort until you have made your decision of which concept you want to pursue. If you did, it would save \$1.5 billion.

General WICKHAM. The way you state it, sir, it is very simple, and it looks like duplication. I am not competent to explain why we are doing it without duplication, but I will give you a thoughtful answer for the record.

Senator STEVENS. I will put the rest of my questions in the record. I think we ought to watch out for the bow-wave of 1987-88. We think that things are bad this year, and we are in 1986. The closer we get to the annual lighting of the flare that attracts the moth to this budget, the Presidential election year, the closer we get to real problems. Problems aren't nearly as bad this year as they are going to be in 1987 and 1988.

Senator Rudman.

Senator RUDMAN. Thank you, Mr. Chairman. I really have only one more question.

I was going to say to General Wickham, Mr. Chairman, that he could find a way to have the Secretary have an Army election. He could also get 74 percent of the vote, maybe he could be here in 1990.

[General laughter.]

Senator STEVENS. I look at the General, and I know he started in the Army the year I got out of law school. He is about ready to retire, but I am not ready to retire. You understand that he won't really retire. We will see General Wickham again. He is a distinguished soldier, and I think he has been a great Chief of the Army. He has done a tremendous job before this committee, and I say that sincerely.

General WICKHAM. Thank you, sir.

ANTIARMOR PLAN

Senator RUDMAN. General Wickham, this hearing wouldn't be complete as far as I am concerned, and I am sure as far as you are concerned, if we didn't have a brief discussion on the record about light antiarmor weapons.

I want to go to the fiscal year 1984 CR, and just read that language, which I know you are familiar with. It says, "The Conferees are committed to the proposition that a single, coordinated anti-armor master plan must be obtained which is administratively enforced by OSD, that cooperation must be obtained among the services, and that the duplication must be eliminated. Evidence of substantial progress will be expected in the fiscal year 1986 request."

Tell what the status of that is because I really haven't found much evidence, at least in the submissions, of what you are doing in that area?

General WICKHAM. I will give you a definitive and classified answer for the record, sir. By and large, on the R&D side, the seek and destroy munitions, SADARM type of munition technology, there is money in the R&D account to continue that, to include two color IR for Copperhead upgrade, for example. There is money in the 1986 program to deal with further testing and evaluation of small antitank systems, the AT-4, the Swedish system, as well as an upgraded LAW.

[The information follows:]

ANTI-ARMOR MASTER PLAN

The Army portion of the DoD Anti-Armor Master Plan will address all of the Army's anti-armor munitions which are planned for development and production. It will display the Army management strategy for developing and procuring weapons to ensure a strong conventional deterrent capability. In addition to those systems already mentioned it will include such items as TOW improvements, Improved Conventional Munitions, JTACMS, improved anti-armor mines, and improved kinetic energy tank killing weapons. The Army portion of the plan will also include discussion on the threat, battlefield dynamics and imperatives. The Army is working with the Office of the Secretary of Defense and the other Services to complete the plan and submit it to Congress in the near future.

DRAGON REPLACEMENT

Senator RUDMAN. That is the M-72E4.

General WICKHAM. Right.

We also have some R&D money in there to develop a replacement for the Dragon. That is a long-term program. We are not trying to kill a tank head-on with this replacement. I can't give you any more details on that in an open session. There is funding in the program for not only the R&D, but also the acquisition of munitions such as Copperhead.

Senator RUDMAN. You are also, if I am not mistaken, involved in a joint program with the Marine Corps in terms of a weapon that is somewhat heavier than we have traditionally looked at for LOFT, but which would have a frontal field capability. I believe that is a foreign system that is going to be licensed if it works. Is that correct?

General WICKHAM. Yes, sir.

Senator RUDMAN. I thank you, Mr. Chairman.

Thank you very much, General Wickham.

Senator STEVENS. Does anyone have other? Senator D'Amato.

Senator D'AMATO. No other questions, Mr. Chairman.

Senator McCURE. I do have some questions that I would like to submit for the record, Mr. Chairman.

SUBMITTED QUESTIONS

Senator STEVENS. Any members that were present may submit questions for the record as through they were read, and the others will be submitted as questions for the record, and we ask that they be responded to as is normal.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

AH-64 ATTACK HELICOPTER

QUESTION: Secretary Marsh, you are again requesting funds for 144 AH-64's in fiscal 1986. Deliveries on that production program are about two months behind schedule. Why shouldn't we reduce 1986 funding to reflect those slippages and save some \$175 million?

ANSWER: Since start of production, cost of the APACHE has been, and continues to be, the single most important program issue raised by the Congress. Concern for this issue is clearly shared by the Army and we have been carefully managing the program to minimize production unit cost. The keystone in minimizing the cost is to attain economic production rate and stabilize the program thereafter. Economic production rate of 12 aircraft per month will be achieved during deliveries under the FY 1984 third production procurement and maintained during the FY 1985 procurement period. Reduction of the FY 1986 budget request by \$175 million would require a downward adjustment to a less economic production rate with an attendant increase in unit costs. Such an action would be contrary to the stated will of the Congress and would ultimately result in procurement of less than the established requirement for 675 aircraft within the allocated budget.

PERSHING II MISSILE

QUESTION: Secretary Marsh, you are requesting \$335 million for the last year of PERSHING II production, a program that has been restructured since last year with significantly lower production. Within the confines of this open hearing, explain why the program has changed, providing the classified specifics and justifications for the record.

Answer: The reduction was essentially a budget decision made easier by the Federal Republic of Germany decision not to allow forward deployment of reload missiles. During development of the FY 86-90 POM, a dollar amount was cut from the PII which amounted to a reduction in missiles from [deleted] for a 10 year program. At the same time the Federal Republic of Germany made a decision not to allow the forward deployment of the originally planned [deleted] missiles.

CAUSE OF PERSHING II ACCIDENT IN GERMANY

QUESTION. Secretary Marsh, what, if any, firm conclusions and recommendations have been reached on the cause of the recent Pershing II accident in Germany?

ANSWER. As of this date, the investigation into the cause of the Pershing II motor incident in Germany is still on-going. Upon completion of the accident investigation, cause and recommendations will be made available.

DIVAD

QUESTION. General Wickham, last year, Congress did not fund the Army's request for 132 DIVAD guns deferring further production pending a thorough review by the Secretary of Defense of this problem plagued program. You are requesting \$532 million to continue the program. Your statement also indicates a continuing effort to find a suitable low altitude air defense weapon for the heavy forces. What initiatives has the Army taken in addition to the testing of at least three alternative systems as directed by the Secretary of Defense? What are the alternatives being tested?

ANSWER. In addition to alternative systems testing, the Army will also undertake to acquire, for non-firing limited test, representatives of two classes of systems (gun/missile hybrid and beam rider missile systems) which might be a replacement for, but not a near term alternative to, Sgt. York. The short reaction time need for a gun contribution is well documented, as is the need for a gun-missile mix on the battlefield. Of course, this limited testing cannot lead directly to any programmatic decision. Instead, the data can help draft sensible competitive requirements for a follow-on air defense system should that become necessary. The Army will attempt to execute this testing at a different location in order to have as large a data base as possible available.

Improved Chaparral will be evaluated as an alternative to Sgt. York during the Follow-On Evaluation I.

DIVAD/LOW ALTITUDE AIR DEFENSE PROGRAM

QUESTION: Secretary Marsh, is the Army firmly committed to DIVAD or could the Army recommend a significant restructuring of its low altitude air defense program as a result of the testing.

ANSWER: The Army is totally committed to the air defense capability for its heavy divisions that SGT YORK was developed to provide. Nothing less is acceptable for our soldiers. We are determined that the system that goes into the field provide that capability. We are confident that the SGT YORK (DIVAD) will successfully complete the Fiscal Year 85 Initial Production Test and the Follow-on Evaluation. With favorable test results, we anticipate that the Department of Defense will continue the program. Should the testing unexpectedly disclose uncorrectable defects in the SGT YORK, the Army would, of course, reevaluate the low altitude air defense program.

DIVAD FIELDING

QUESTION: Secretary Marsh, your statement also notes that the DIVAD will not be fielded unless it demonstrates that it performs as intended. On what basis will you make that judgment and when?

ANSWER: The results from both the Initial Production Tests and the Operational Test (Follow-on Evaluation I) will be key factors used to determine the future fielding of SGT YORK (DIVAD). Test results will be evaluated against require-

ments documentation, contract specifications and the issues and criteria which were mutually agreed upon by representatives of the Secretary of Defense and the Army. Current plans call for test data to be provided to the Office of the Secretary of Defense by the end of June 1985.

DIVAD

Question. Secretary Marsh, since the Army has decided to add the Stinger missile to DIVAD at a cost of \$365 million plus \$567 million for an additional 8,080 missiles (total \$932 million), haven't you in fact already made the deployment decision without benefit of the on-going test results? Which of the DIVAD's problems and difficulties will this extra \$932 million fix? Why should Congress fund that now?

Answer. Cost for the integration is \$957.8 million, including missiles. The decision to request funding for the integration is driven by the budgeting system we use which necessitates presumed success at time of submission. The SGT YORK system is working. SGT YORK Testing is doing exactly what it was designed to do--tell us what needs to be fixed before the soldier has to rely on it. Failures and defects have been identified and have been, or are being fixed. The Army is confident that SGT YORK will successfully complete the FY85 Initial Production Test and Follow-On Evaluation I. The SGT YORK-STINGER integration makes good sense for a number of reasons. First, it provides a complementary gun/missile mix which will make it more difficult for the threat to counter. Second, it forces the threat to make trade-offs between the ordnance and electronic countermeasures equipment he carries, and complicates the attack options that he can fly. Third, countermeasures are much more difficult against a gun/missile combination than against missile systems only, and almost impossible against guns. Finally, the SGT YORK-STINGER integration enhances STINGER effectiveness and survivability in the heavy division by improving STINGER's target detection and identification; command and control; system effectiveness against mass attacks; and tactical mobility and survivability on the battlefield. Fielding this improvement as quickly as possible will significantly enhance the air defense capability of the heavy division.

QUESTION. Mr. Secretary, what do you see as the most significant problems for DIVAD from recent testing and what persuades you that continued production of this system is justified?

ANSWER. The Sgt. York has done well in recent tests. Items that caused problems in development such as the armament subsystem are performing well in production testing. Power and actuation subsystem reliability has been lower than expected. Hydraulic leaks and power control unit problems have been the chief culprits. We see them as readily fixable.

ADDITIONAL COMBAT BATTALIONS

QUESTION. General Wickham, one of your charts showed an increasing number of active duty battalions--up to 370--without any increases in end strength. Where are these additional people coming from and what impact will this have on readiness and sustainability?

ANSWER. The increase in combat battalions was accomplished within constant active component (AC) end strength through force structure initiatives which reduced the size of heavy divisions, restructured infantry divisions to light design, applied economies and efficiencies basically through use of productivity enhancing technology, and transferred some AC missions to the reserve component (RC). The Army of Excellence (AOE) designs applied to the force reduced the size of maneuver battalions for more efficient operations and improved command and control, while improving their internal combat to support ratio. Consolidation of Chaparral and 8" battalions at Corps reduced structure requirements while improving the Corps Commander's ability to influence the battle. Transfer of AC missions to the RC increased the interdependence and intersupportability between the active Army, the National Guard, and the Army Reserve and were supported by modest growth in the RC end strength. The goal is to improve combat capability and sustainability. The Army will continue fielding of modernized units, equipment, and improved technology, e.g., Mobile Subscriber Equipment (MSE) to meet this goal and improve mission capabilities.

INCREASING ROLE OF RESERVE COMPONENTS

QUESTION: Secretary Marsh, I am pleased to see the Army continuing to hold its active duty strength level at 780,800 while simultaneously modernizing and increasing the total force structure. I understand you are achieving this by increasing your reserve and guard end strength by 29,000 to the point that over half of the Army will soon be in the reserve components. What will be the biggest problems in growing and modernizing the Reserves?

ANSWER: The readiness required of our Reserve Components is achieved by the combination of (1) sufficient personnel (2) performing mission related training (3) with essential equipment of the type required to perform wartime missions (with sufficient additional equipment available upon mobilization) and for planning and developing the ability to mobilize. Two especially key elements in achieving readiness are the Selected Reserve Incentive Program (SRIP) and adequate Active Guard/Reserve (AGR) support at the unit level.

SRIP is a tool to attract and retain quality personnel in the Army Reserve and National Guard troop program units in the specialties and grades required. SRIP has proven very effective in the enlistment and reenlistment of personnel with critical military skills or assigned to high priority units. Continuation and expansion of the SRIP are essential to Selected Reserve personnel strength maintenance.

Equally important is the presence at the unit level of Active Guard/Reserve (AGR) personnel who assist drilling reservists achieve their readiness goals by providing full time support in organizational administrative, recruiting, instructional, logistical, and training support. The Army Reserve also employs AGR personnel in organizational maintenance. Unit commanders at all levels emphasize adequate AGR full time support enhances units' administrative, logistical and training capabilities, thus improving their mobilization readiness status.

MEET PROGRAM

QUESTION: General Wickham, I understand the Army has a

new "minimum, essential equipment for training" program--a MEET program--for the reserves. Describe this program, its costs and how much you have requested for it this year.

ANSWER: The MEET program determines those essential items of equipment required for training by the reserve components and distributes equipment to accomplish that training. The majority of our reserve component units are later deployers and are equipped at a lower priority than most active units. Therefore, accomplishment of equipment fill in these units requires a longer time. We accomplish accelerated distribution of selected equipment by elevating the distribution priority for these units above their normal sequence. This enables us to provide a minimum level of equipment as an interim fix until the normal equipment fill is accomplished. MEET draws from assets already procured and from those that are being procured in the Army budget.

Force Modernization

QUESTION: Can you tell me when the operations and maintenance costs associated with force modernization will begin to level off?

ANSWER: Operating and maintenance costs associated with force modernization will remain fairly constant through FY90 and gradually taper off after FY91. This is directly related to procurement which generally occurs two years prior to fielding.

QUESTION: Will the Congress see any downturn in maintenance costs due to improved reliability of your new equipment?

ANSWER: Downturn in maintenance costs due to improved reliability of modernized equipment will occur as systems with increased reliability and maintainability displace older equipment. A current Army program goal is to reduce Reliability and Maintainability (RAM) driven support costs of the top ten new systems by 50% by FY 1991. The program goals are significant reductions in equipment down time, maintenance, support, training requirements and dollar costs. For example, the CH-47C Chinook cargo helicopter required 23 maintenance manhours per flying hour. The CH-47D modernization program requirement was to reduce maintenance manhours per flying hour to nineteen. Today, the CH-47D is getting 15 maintenance manhours per flying hour. The goal is to reduce maintenance manhours per flying hour even further to nine and one-half.

BONUS PROGRAM

QUESTION. Secretary Marsh, your fiscal year 1986 request for reenlistment bonuses includes a \$26.8 million increase for new payments. This represents a 61 percent increase in new reenlistment bonuses since fiscal year 1984. How can you justify such a large increase in your request for these bonuses when the Army is already meeting its retention goals with the current level of funding?

ANSWER. Past Congressional support for the reenlistment bonus program has enabled the Army to significantly improve its force alignment over the past three years. For example, during FY 1984 the Army achieved its aggregate NCO requirement for the

first time in recent history. Nevertheless, even though aggregate retention goals are being met, some shortages continue to exist in selected combat arms, EW/intelligence, and maintenance skills. In FY 1985 and FY 1986 the Army will continue the force alignment process by focusing on these remaining skill shortages. The increased reenlistment bonus program in FY 1986 will allow the Army to increase bonus levels in these skills and sustain the force alignment process within the confines of an improving economy, decreasing pay comparability, and a higher quality reenlistment population.

ENLISTMENT BONUSES

QUESTION: Secretary Marsh, although active Army end strength remains stable at 780,000, and you have exceeded your recruiting goals for the past several years, you are still requesting \$108 million to pay enlistment bonuses of up to \$8,000 to over 25,000 enlistees in fiscal year 1986. Why?

ANSWER: The Army is requesting \$115.4 million to pay enlistment bonuses in FY86. Although end strength remains stable at 780,000 the accession mission is also remaining constant at approximately 140,000. The shrinking manpower pool of 17-21 year old males, and lower youth unemployment is causing the recruiting market to shrink. Bonuses and other enlistment incentives are required to overcome the market factors and to influence the high quality (test category I-III A, HSDG) applicants to enlist in critical skills. This distributive effect of bonuses ensures that quality enlistees are accessed to meet Army skill requirements.

MILITARY COMPENSATION AND COMPARABILITY ISSUE

QUESTION. Secretary Marsh, I understand the Army projects, that without a 3 percent July pay raise, you will lose 9,100 soldiers and recruits. Aren't you overestimating the recruiting and retention impact of a pay increase and minimizing the positive effect of increases in quality of life initiatives and bonuses, and the new GI Bill?

ANSWER. After the proposed 3 percent pay raise 1 July 1985, OSD estimates that military pay will lag private sector wages by 9.6 percent when compared to the Employment Cost Index (ECI) and 13.4 percent when compared to the Professional, Administrative, Technical and Clerical (PATC) Index. These two Bureau of Labor statistics have been used when comparing military and civilian pay.

The economic analysis used to project personnel losses considered the bonuses and the new GI Bill. Bonuses are for recruitment and retention of personnel in critical skill and shortage areas and have only limited impact on the total force manning. Although it provides a better return on investment, our projections suggest as a recruiting incentive, it will be on a par with the current Army College Fund. These projections are based upon response of GI Bill plus new Army College Fund eligible potential recruits during February 1985. However, this projection assumed no further slip from comparability. These bright young men and women are very sensitive to the state of the economy. If they see Army pay substantially below civilian pay, the lure of a well-paying job, combined perhaps with night school and a student loan, might overwhelm the drawing power of the GI Bill.

The impact of the proposed quality of life issues have not been measured. When passed and implemented, they will certainly have a positive impact on morale and will aid retention. They will have limited impact on recruitment as most initiatives are directed toward junior enlisted personnel with families.

However, the most important factor in recruitment and retention is pay comparability. Pay comparability is especially critical with today's improving economy and the impact of the declining youth population on recruitment.

QUESTION. Secretary Marsh, the Army claims that without a 3 percent July pay raise, active military pay would trail civilian pay by more than 9 percent. The calculation is based solely on regular military compensation and discounts the total military compensation benefits package which adds over 20 percent for officers and 30 percent for enlistees. Why aren't these additional benefits considered in your pay comparability calculations?

ANSWER. Regular Military Compensation (RMC) includes basic pay, housing allowances, subsistence allowance and the tax advantage of these allowances and is paid to all servicemembers or provided in-kind. Public Law 90-207 specified that the comparable increase between civilian and military pay raises be determined by equating RMC and General Schedule salaries. General Schedule salaries are determined after comparison to private sector pays. RMC includes the entitlements (cash or in-kind) received by all servicemembers. Non-salary items such as medical, commissary, and post exchange are based on use of these facilities. Savings from the commissary and exchange are a percentage of the amount spent and would vary among servicemembers. Special and incentive pay and enlistment and reenlistment bonuses are to attract and retain personnel for critical skills of the Army and for duties which are extremely difficult or as involving an unusual degree of responsibility.

The comparison between RMC and private sector includes the compensation received by the vast majority of personnel in the Army not assigned to special duties or in critical shortage areas.

DOD is presently conducting a study of the pay and benefits of servicemembers with an initial report to Congress due 1 May 1985. The study includes a comparison of the pay and benefits of 20 Military Occupational Specialities (MOS) that have a cross-walk to civilian occupations.

QUESTION. Secretary Marsh, given the constraints in the fiscal year 1986 budget, and the fact that civil servants may be forced to accept a 5 percent pay reduction, do you feel you can justify a 3 percent July pay raise for military personnel?

ANSWER. There are fundamental differences between the military and federal civilian personnel systems. These differences require separate compensation programs tailored to each personnel system's unique force management requirements. This was borne out by the experiences of the late 1970s when, unlike federal civilians, the military had extreme difficulty attracting and retaining personnel. This situation made it

necessary that the military receive higher pay raises than federal civilians in order to correct the manning problems. Having reestablished competitive pay for military personnel through significant pay raises in 1980 and 1981, future military pay raises should roughly match private sector pay raises in order to remain competitive for manpower. The excellent recruiting and retention of the past few years will be impacted if return to pay comparability is not achieved.

RENT PLUS

QUESTION. Secretary Marsh, I have asked the General Accounting Office to prepare a report on housing allowance options for Alaska and Hawaii, to include recommendations on the advisability of developing a single housing allowance program nationwide. In the meantime, the Department of Defense Inspector General has released a report which cites inadequacies in management of the Rent Plus program in Alaska and Hawaii. Are you familiar with this DOD Report? If so, can you tell us how the Army is planning to eliminate deficiencies and control costs in the Rent Plus program in Alaska and Hawaii?

ANSWER. Rent Plus is a uniformed service level program managed under the policy guidance of DOD. The Army cannot unilaterally change Rent Plus but must work with the other Services and DOD. We have already supported changes dealing with servicemembers sharing quarters with civilians and changes to the computation method for rental ceilings. We have responded to a draft of the DODIG report and are preparing a response to the final report. At the same time, DOD has formed a special Rent Plus study group which will soon report its findings and recommendations. We are awaiting the results of the study and will continue to work with the other uniformed services and DOD to make necessary changes.

MILITARY RETIREMENTS

QUESTION. Secretary Marsh, while reports by the Grace Commission and the DOD Fifth Quadrennial Review of Military Compensation both proposed wide-reaching modification of the military retirement system, the Congress has yet to see any reforms proposed by the Department. Don't you think there is room to reduce retirement costs without undermining the basic military retirement benefit concept?

ANSWER. The Army leadership fully understands the growing cost to our nation of the military retirement system but consider such cost to be the result of previous national policy decisions. Further, it must be emphasized that the retirement system is an integral part of the total military compensation package. The critical test for any change to the compensation package is the force shaping and combat readiness effect it would have on the Total Army.

Erroneous comparisons with pensions in the private sector often

result in proposals for piecemeal changes to military retirement without regard to the context of the total compensation package. Active duty pay caps, annual adjustments that fail to keep pace with private sector wage growth and recent adverse changes to the retirement system have suppressed retired pay. The in-depth analysis of the Fifth Quadrennial Review of Military Compensation (5QRMC) established an analytical point of departure for a thorough evaluation of the military retirement system; however, it did not assess the impact these alternatives would have on the Reserve Components which are a critical link in the posture of Army readiness. The Army continues to review the results of the 5QRMC. We remain convinced that each alternative would have a substantial negative effect on the career force particularly when only slight changes in assumptions yield a large variation in projected retention rates. The Army will not support an incorrect conclusion. The penalty of reduced defense capability would be too severe.

CHEMICAL PROGRAM

QUESTION: General Wickham, you are seeking \$22 million to initiate production of the 155 millimeter binary chemical artillery round in addition to \$109 million for construction and production equipment. What has changed in the past year that should persuade Congress to approve production this year?

ANSWER: In the past year, we have seen a continual worsening of our posture to deter chemical warfare. At least 16 nations now have an offensive chemical weapons capability. Chemical proliferation reinforces our need to be prepared to fight in a chemical environment in any area of the world. The Soviet Union in particular has continued to develop and use the world's most formidable capability with a chemical stockpile we know to be some 20 to 50 times larger than the useful portion of our stockpile.

We, on the other hand, no longer have the capability to provide a credible chemical response on the battlefield if chemical weapons are used against us. The munitions in our stockpile are old (most over 26 years) and obsolescent. They no longer meet the requirements we need to fight on today's battlefield. The gap between what we have in the old stockpile and what we need to deter chemical warfare or retaliate continues to get worse.

The chemical munitions we currently have in storage are of the unitary type which means they are potentially hazardous to maintain and would be dangerous for our men and women of the Armed Forces to deploy if required. This situation only gets worse with time. Acquiring the binary munitions would allow us to destroy the old munition and build a smaller, militarily more useful chemical deterrent stockpile without ever having to store lethal chemical agents again in this country.

Since last year the BIGEYE bomb has gone through another full year of testing, demonstrating it's a reliable munition ready for production; one that's badly needed to provide that deep strike capability we currently don't have. We have completed a chemical plant and metal parts production line for the 155mm GB-2 round and can start initial production as soon as authority is given to do so. Nine successful tests have been conducted on the Binary Chemical Warhead for the Multiple Launch

Rocket System. With the Binary Chemical Warhead, BIGEYE bomb, and the 155mm GB-2 round, we will be able to provide the field commander with the munitions he needs to fight on today's battlefield if he were required to retaliate with chemical weapons.

Another full year of attempting to negotiate a ban on chemical weapons has not born fruit. The Soviets have still avoided taking any significant steps towards reaching an agreement. It is now obvious that the Soviets fully understand the condition of our stockpile and that we cannot retaliate in kind if they choose to use chemicals against us.

The bottom line is that this past year has seen our situation become even more untenable with the ever increasing chemical threat and the continued erosion of our chemical retaliatory capabilities. The asymmetry that has developed invites the use of chemical weapons against us in any conflict with the Soviets.

MEDICAL READINESS

QUESTION: Secretary Marsh, last year the Committee was told that at the onset of a conflict up to 75 percent of all casualties would not receive medical care. I understand of the \$3.2 billion you are requesting for medical care only \$307 million will be used to help redress this critical shortage. How can you justify spending more than \$3 billion on peacetime operations and \$300 million to prepare for wartime casualties?

ANSWER: \$307 million only represents the total funding requested by the Army's Surgeon General in FY86 to equip field medical units. While this portion of the budget request has been called "medical readiness funding", it pertains only to the equipping initiatives to support the medical force structure, i.e. deployable medical systems (combat hospitals), other field medical units, battalion aid stations, medical clearing stations, etc. in direct support of the combat force. This funding level represents a dramatic increase over previous years and reflects a reasonable economic level of acquisition that can be properly executed in FY86.

\$3.2 billion encompasses the funding for all medical care programs within the Army. This funding level includes all operating and training costs for the Army's health care system. While not specifically referenced as "medical readiness funding", large portions of this total funding level contribute directly and indirectly to the Army's overall readiness. The total funding program contributes to readiness by keeping the soldier and his family healthy, by training medical personnel in the skills required to perform their wartime mission, and by providing the health care structure and environment necessary to develop the techniques, procedures, equipment and supplies required in the wartime delivery of medical care.

The Army is fully committed to enhancing medical readiness. A comparison of funding requested to equip medical units with the total funding for peacetime medical operations does not present a fair analysis of our commitment to improve medical readiness.

OUTPATIENT USER FEES

QUESTION: Secretary Marsh, for two years the Congressional Budget Office has recommended implementing outpatient user fees

as a way to improve medical care and reduce peacetime medical costs. Considering your reluctance to fund medical readiness programs because of peacetime medical costs, shouldn't the Congress consider user fees to help fund your wartime requirements?

ANSWER: The Army is not reluctant to fund medical readiness, but is dedicated to a balanced, executable five year program. However, the raising of revenues is not, and should not be a mission of the uniformed medical services. Therefore, the imposition of a user fee should not be imposed for the purpose of raising revenues to defray the costs of operation and maintenance of the military departments. The requirement to maintain a highly trained, professionally competent medical force capable of immediately responding to support the Army's worldwide mobilization and contingencies missions will remain regardless of whether or not the retired and dependent beneficiaries receive care within that system. In fact, the provision of day-to-day health care services for a beneficiary population, unrestricted by age and sex, are critical to the procurement, retention and training of the health care professional. This health care service to the soldier's family is a beneficial by-product of medical readiness.

The issue of prime importance to the Army which must be included is the potential adverse impact of a user fee on the retention of careerists and the attendant degradation of combat readiness. This issue, while compelling at any time, is especially compelling now due to the timing. The military member has seen his pay raise capped in FY 83, 84, and FY 85, and faces the possibility of receiving no pay raise in FY 86. The retiree has experienced delays in COLA adjustments, reduction in COLA increases (1/2 if under age 62) and faces future adjustments to retired pay. The imposition of a user fee, for whatever reason, could be seen as a further erosion of benefits and an actual reduction in disposable income. This can provide a strong disincentive for continued military service for our mid-term careerists who are critical to our combat readiness.

LHX DEVELOPMENT PROGRAM

QUESTION: General Wickham, the Army is requesting \$146 million in fiscal year 1986 to continue development of the LHX helicopter and engine, about twice the fiscal 1985 appropriation. LHX is planned for full scale development in fiscal year 1987 and indications are that the total R&D cost will approach \$3 billion.

What steps are being taken to reduce and minimize the costs of the program?

Why is it necessary to rely on so much new technology?

What will happen to the cost if the user determines that the LHX should be a conventional two-pilot helicopter rather than a single pilot?

When will the mission requirements documents be developed and approved for this new family of helicopters?

Shouldn't development be slowed until the requirements are approved?

ANSWER: The Army has taken two major steps to reduce and minimize the costs of the LHX program. First, the Army established firm program goals including a unit flyaway cost goal in constant fiscal year 1984 dollars of \$3-4 million for the LHX Utility and \$5-6 million for the LHX Scout/Attack (SCAT).

Second, the Army designed an acquisition strategy that emphasizes competition in both development and procurement.

The Army is not relying on new technology to meet the LHX objectives. Rather, it is harnessing available technology to achieve significant improvements in performance and O&S cost reductions. The use of advanced composite airframes, fly-by-wire and fly-by-light controls, advanced digital avionics systems, advanced technology engines, integrated technology rotor systems, integrated on-board diagnostic and maintenance systems, etc., enables LHX to be a smaller, lighter, more affordable and more survivable aircraft than otherwise possible.

Concerning one vs two seat variations, current estimates show a two seat SCAT would add approximately 900 pounds to mission gross weight and approximately \$300,000 (FY 84 dollars) to unit flyaway cost compared to cost of the single seat SCAT.

The LHX requirement, has been initially proposed in the form of a Letter of Agreement (LOA) between the combat and materiel developer. This LOA specifies the nature and characteristics of LHX and is the baseline for continued development of the final Required Operational Capability (ROC). The ROC will be prepared to support Full Scale Engineering Development and will be completed in 1986 following the Cost and Operational Effectiveness Analysis (COEA).

LHX development should not be slowed. The program milestones reflect a tailored acquisition strategy consistent with the nature and scope of the LHX program. The completed Letter of Agreement is appropriate requirements documentation for this stage of LHX development and will become the baseline for COEA and wind tunnel analysis.

LHX DEVELOPMENT PROGRAM

QUESTION: General Wickham, the cost of keeping a second full scale development contractor in the LHX program was estimated last year to be \$1.1 billion (FY 84 \$) above a sole-source non-competitive alternative. Given the budget squeeze, have you considered dropping the second full scale contractor in favor of dual source procurement?

ANSWER: The Army considered dropping the second full-scale development contract in favor of a dual source procurement. However, because of the size and importance of the LHX program it was determined that the two contract full-scale development would enhance product quality, reduce program risk, spark technological innovation through competition and lower price. Given the magnitude of the LHX acquisition, it is the Army's position that it is cost effective to make this up-front investment in development competition. Competition throughout the LHX program should yield a lower total cost to the government with a better overall product at lower risk.

REVISED EQUIPMENT DISTRIBUTION POLICY

QUESTION: General Wickham, I understand the Army is developing a new "FORWARD FIELDING" equipment distribution concept. This sounds like some of the suggestions made here last year to put as much of your new equipment into the hands of the forward deployed units and not into storage. Would you

describe this change for us? Since the operating and support costs of these newer systems are higher than the older replaced systems, how much has been added to your request to support this new concept?

ANSWER: The Army is currently studying a new distribution/redistribution policy for tanks and infantry fighting vehicles. In essence, this plan would equip the [deleted]. The remainder of the active component would be equipped with M1 tanks. This plan would also facilitate modernization initiatives in the Reserve Components (RC). The RC under this plan would be equipped with 7 M1 battalions and the remainder all M60A3's. Concurrently we are looking at M2/M3 Bradley distribution. It's true that O&S costs of our newer systems are higher. As of this time the Army has requested no additional funds to support FORWARD FIELDING.

CIVILIAN EMPLOYMENT IN EUROPE

QUESTION: General Wickham, I understand the Army employs more civilians in Europe than in the rest of the world combined. Is this correct?

ANSWER: No, that is wrong by a very large margin. As of 31 Jan 85, the Army had a total of 414,161 appropriated fund (military functions) civilians worldwide; of that total, 78,163 were in Europe. This includes both U.S. citizens and Foreign Nationals. Additionally, with nonappropriated funds, the Army employs 36,499 civilians worldwide, of which 11,687 are in Europe.

*CIVILIAN EMPLOYMENT - 31 JAN 85

CATEGORY	Appropriated Fund				EUROPE
	Military Functions	Civil Functions	Cemeterial Functions	TOTAL	
Direct Hire	316,092	29,354	130	345,576	23,069
National Guard Technicians	24,746	-	-	24,746	-
Foreign National - Direct Hire	16,132	-	-	16,132	1,757
Foreign National - Indirect Hire	60,020	-	-	60,020	53,345
Ceiling Exempt ¹	(2,829)	(1,114)	-	(3,943)	(8)
TOTAL CEILING EMPLOYMENT	414,161	28,240	130	442,531	78,163
TOTAL EMPLOYMENT	416,990	29,354	130	446,474	78,171

*Represents actual numbers of employees. Numbers are not fractionally adjusted.

¹ Includes employees hired under appointments such as: Federal Junior Fellowship, Worker-Trainee, Youth-stay-in-school; employees on Leave without pay pending disability retirement.

	Non-Appropriated Fund	
	World-wide	Europe
US Civilian	33,785	8,973
Foreign National	2,714	2,714
TOTAL EMPLOYMENT (Excluding Part-time Military)	36,499	11,687
Part-time Military	6,388	4,310

HOST NATION SUPPORT

QUESTION: General Wickham, what percent of the cost of our forces in Europe are provided by host nation support?

ANSWER: Contributions of our NATO/European allies to our common defense, called burdensharing, are described to Congress annually in Secretary Weinberger's Report on Allied Contributions to the Common Defense. Contributions directly applicable to support of our forces in Europe include such difficult to quantify areas as providing real estate for defense purposes with the accompanying loss of that real estate for income and tax revenue purposes. [Deleted] In summary, no single criterion can provide an adequate measure of burdensharing between the United States and our European Allies.

JOINT TACTICAL MISSILE SYSTEM - ARMY

QUESTION. General Wickham, you are requesting \$155 million to continue development of the Army's version of the Joint Tactical Missile - a LANCE-type ballistic weapon. It will be different from the Air Force version. What is "Joint" about this program.

ANSWER. The Joint Tactical Missile System, or JTACMS, is a family of complementary weapons developed by the Army and the Air Force for use in fighting the joint service AirLand Battle. One element of JTACMS will be a ballistic missile called JTACMS-Army. The Air Force has announced that it will develop an air launched cruise missile system as another contribution to the JTACMS effort. Furthermore, although the ballistic missile is being developed as an Army system, extensive interservice cooperation will be required, and is being pursued, in the areas of battle management, target acquisition, and joint airland operation concepts.

JOINT TACTICAL MISSILE SYSTEM - ARMY

QUESTION: General Wickham, the Army's position on filling the tactical missile requirement has changed a number of times. Are you now satisfied with the ballistic concept?

ANSWER: Yes, the new missile will use launchers and associated ground support equipment from the Army's current Multiple Launch Rocket System (MLRS). This decision was based on the Army's experience with ballistic missiles, MLRS' proven reliability, its ready compatibility with the deep battle mission and affordability of adapting a ballistic missile to existing launchers, equipment, and force structure. The JTACMS-A supports the Army-Air Force Memorandum of Agreement and the subsequent Joint Statement on Need for JTACMS.

MORTAR PROGRAMS

QUESTION. Mr. Secretary, your February 1 letter to us said that you are postponing selection of a contractor for the 120mm mortar based on concerns about "the methodology used to survey possible contractors and the validity of the performance requirements for the system." What aspects of the acquisition

methodology for the 120mm mortar most disturbed you, and how is this being corrected?

ANSWER. On February 1, 1985 the Secretary of the Army informed the Congress that he was postponing selection of a contractor for the 120mm mortar to review the methodology, used to survey possible contractors, and the performance requirement of the system. Contractor input was the result of a market survey in the form of answers to questionnaires and briefings to the contracting activity. The Army Secretariat wants to assure itself of an adequate data base from which program decisions will be made. Additionally, a review was requested of system requirements. A revalidation of the system requirements is ongoing. Upon review completion, the Army will proceed with the acquisition as expeditiously as possible. Milestones reported in the RDTE Congressional Descriptive Summary will be adjusted accordingly.

QUESTION. Secretary Marsh, in light of the pending procurement decision, why is the \$13.3 million appropriated last year in the Army R&D account for the initiation of the 120mm mortar program still needed?

ANSWER. The \$13.3 million is to fund the necessary program management costs and testing needed to evaluate mortar systems leading to the Army decision and to initiate required ammunition improvements. A portion is being reserved for reprogramming to procurement should procurement be possible during FY 1985.

ADVANCED ANTITANK WEAPONS SYSTEM-MEDIUM

QUESTION: General Wickham, the Army is requesting \$81.1 million for the development of the Advanced Anti-Tank Weapons System-M, a proposed replacement for the medium-range Dragon. Preliminary indications are that the total development cost of the program may exceed \$700 million and 5 years. Just how much of an improvement will the AAWS-M be over the current Dragon in terms of range? In terms of penetrability?

ANSWER: AAWS-M, which will replace the DRAGON system, will possess the growth potential to counter the evolving Soviet armor threats. AAWS-M is required to [deleted]
[deleted]. DRAGON's range is [deleted]
[deleted]. AAWS-M's range advantage also adds greater lethality and higher survivability. AAWS-M [deleted]
[deleted] than that of DRAGON. The current candidate technologies should serve to enhance gunner survivability in both a benign and countermeasure battlefield environment.

QUESTION: General Wickham, the Army track record in developing a new Dragon replacement has not been good. Has the Army investigated a product improvement to the Dragon as the Marine Corps is? Isn't that a better short term solution, rather than a \$700 million R&D effort which may not produce a useable missile?

ANSWER: The USMC is [deleted]
[deleted]. After careful examination of a possible DRAGON product improvement, the Army has decided that the [deleted]
[deleted] for the following reasons. A product improvement to increase range and lethality would require a funding level of [deleted]
[deleted] for a development/rework program for [deleted]
[deleted]. The major changes would include addition of a flight

motor, improved warhead and stabilized day/night sight. This would increase the [deleted]. Therefore, the AAWS-M development is considered essential to countering the threat during the 1990s and providing an antiarmor weapon for the dismounted infantry.

M1 TRACK DURABILITY

QUESTION: General Wickham, the Army has been concerned with the durability of the current M1 tank track. What is the status of the durability testing of alternative tracks or improvements to this track?

ANSWER: Current testing programs are evaluating alternate track pad materials and configurations. Vehicle tests are currently being conducted at both Aberdeen Proving Ground, MD and Yuma Proving Ground, AZ. Alternate track configurations under consideration are replaceable pad track developed by FMC under Government Contract and a West German track manufactured by the Diehl Corporation. These two tracks are scheduled to be tested starting 3rd QTR FY85.

TESTING STATUS OF WEST GERMAN TRACK

QUESTION: General Wickham, the House Armed Services Committee recommended a West German track be tested on the M1 tank and a report rendered by December 31, 1984. What is the status of the testing and has the report been provided?

ANSWER: An interim report was provided to the committee.

The screening test results have been evaluated. They indicated that there was no adverse impact on performance and that there was potential life cycle cost savings. Since the screening test was a success, the Diehl Track will be fully tested in the US during 1985.

NEW TRACK CONSIDERATIONS

QUESTION: General Wickham, apparently the West German track, in addition to being larger and heavier, would require extensive changes to road wheels, sprockets, and rollers. The original new track requirement was very explicit as to weight and logistics being a prime consideration. Have these considerations been revised?

ANSWER: The primary consideration in track evaluation is achievement of combat performance with reduced operating and support costs. The West German track passed its preliminary testing in these areas. Testing scheduled for FY85 initiation will evaluate the effect of the additional weight of this track on the vehicle system over a period of 5,000 miles as well as validate/expand the previous data on cost per mile, maintenance and vehicle performance. The vehicle does require changes due to the use of the West German track and they consist of a different tooth pattern sprocket, rubberized support roller and a harder rubber material on the current roadwheel.

M1 TANK LIFE CYCLE COSTING

QUESTION: General Wickham, what about life cycle costing? Is it the Army plan to review the planned procurement on the basis of life cycle costing?

ANSWER: Yes. While combat performance must be the principal criterion used in evaluating track performance, the high costs associated with track replacement present a potential for savings in operating costs. In reviewing the procurement of new track designs, life cycle costs will continue to be an important consideration.

 QUESTIONS SUBMITTED BY SENATOR MCCLURE

US-SOVIET NUCLEAR PARITY

QUESTION: General Wickham, in your statement you said there is US-Soviet strategic nuclear parity. Why do you believe this? Is the Army's position different from the JCS position, the Secretary of Defense's position, and the President's position?

ANSWER: The Army's FY86 Posture statement is consistent with the positions of the JCS, Secretary of Defense, and President. The reference to strategic parity was used in the sense that each superpower retains sizeable inventories of strategic weapons which, if used if deterrence failed, would devastate both homelands. Indeed, Secretary Weinberger, in his FY86 Annual Report supported the President's statement that "a nuclear war cannot be won and must never be fought". The Joint Chiefs concur with these views.

The fact that each side maintains forces that could devastate the other does not mean that there is not an imbalance of forces or that this imbalance is not important. In Military Posture (FY85), the JCS attest that "US strategic force modernization efforts have not kept pace with the improvement in Soviet capabilities". Unhappily, comparisons of Soviet and US expenditures for strategic nuclear force RD and A; the number and types of new strategic systems deployed during the 1970s; and static measures such as the number of strategic nuclear delivery vehicles (SNDVs), time urgent and non-time urgent hard-target kill potential, and equivalent megatons (soft target potential) support this assertion. The JCS also note that "the Soviet buildup of nuclear and conventional forces, pursued in the face of US and allied restraint...put great pressure on US and allied strategies of deterrence and pose a major threat to international security....Soviet advantages increase their coercive power, while decreasing the options available to US and allied leaders during confrontations with Soviet power".

If the US and our allies are not to face so dangerous a situation, we must achieve and maintain the capability to respond effectively against aggression across the broad conflict spectrum. This explains the urgency of the President's Strategic Modernization Program as well as his support for the prompt modernization of conventional and non-strategic nuclear forces (NSNF). The President recognizes that deterrence is a dynamic process that requires the US to maintain a balanced force structure that is not left in the dust of the USSR's quantitative increases and its

technological improvements. Military modernization will enhance deterrence by insuring that possible adversaries will view the risks and costs of aggression as far exceeding potential gains. Also, it will demonstrate that the US maintains the political resolve to undertake necessary burdens to defend our interests.

The Army concurs with the JCS and supports the efforts of President Reagan and Secretary Weinberger to modernize US strategic nuclear forces so we may redress the imbalances noted above. Strategic modernization, along with improvements to our conventional forces and NSNF, will enhance deterrence and help us to preserve peace with freedom and honor.

SPECIAL FORCES

QUESTION: What is the primary purpose of increasing the emphasis on Special Forces and the Special Operations Command?

ANSWER: The Army's primary purpose for enhancing Special Forces is to provide the National Command Authority with increased flexibility across the spectrum of conflict. Special Operations Forces, of which Special Forces are a part, complement conventional forces or can be employed in situations where the use of conventional forces is inappropriate or infeasible. Special Forces, in its primary peacetime role of Foreign Internal Defense, supports the national objective of deterrence by assisting Third World countries to prepare to defend themselves.

The Army has incorporated diverse units (Special Forces, Rangers, Psychological Operations, Civil Affairs, and Special Operations Aviation) into Army Special Operations Forces. These forces and continuing refinements of Special Operations Forces command and control procedures required an organization capable of insuring that the Special Operations Forces units attained and maintained required levels of operational capabilities in training and readiness. The US Army 1st Special Operations Command (1st SOCOM) is charged with this mission.

AMMUNITION WAR STOCKS

QUESTION. General Wickham, how much would it cost to double basic ammunition war stocks?

ANSWER. Based on current value of all ammunition stocks carried as war reserve, the cost is \$13.3 billion. If these resources were currently available for additional munitions procurement, the Army would not duplicate its current stockpile of mixed standard and modernized munitions. Procurement efforts would instead be geared toward acquisition of fully modernized munitions which provide greater return on investment in the form of enhanced combat effectiveness. Duplication of the current stockpile would also involve restarts of obsolescent munitions production lines.

COST OF DEFENDING THE RIO GRANDE RIVER AND SOUTHERN BORDER

QUESTION. General Wickham, are studies now being conducted in the JCS on the costs of defending the Rio Grande River and our entire Southern border in various contingencies such as guerrilla war and conventional attack?

ANSWER. There are no JCS studies specifically examining the costs of defending the Rio Grande or our Southern border. [Deleted].

QUESTIONS SUBMITTED BY SENATOR ANDREWS

INDUSTRIAL BUILDERS BARGE

QUESTION. Secretary Marsh, it has come to my attention that the U.S. Army Corps of Engineers is asking Industrial Builders, Inc. to remove their barge from Lake Sakakawea, North Dakota. The Corps has determined that the barge is abandoned and/or unattended personal property. This barge is neither abandoned or unattended but instead used on the lake for several pick-up contracts with oil companies and ranchers. The Corps has stated that they are willing to work out a compromise with Industrial Builders on this matter. Could you provide an update on how the Corps plans to negotiate a compromise with Industrial Builders and when the negotiations will take place?

ANSWER. The Corps previously granted Industrial Builders an extension until 1 June 1985 to remove the barge. This compromise position was taken in consideration of the severe winter conditions in North Dakota. I do not have any information on what further compromise may be possible, if any, in the resolution of this matter. While further negotiations may be a possibility, no time and place, to the best of my knowledge, has been established.

QUESTIONS SUBMITTED BY SENATOR KASTEN

LIGHT INFANTRY DIVISIONS

QUESTION: General Wickham, the major selling point for the light division was the understanding that such a unit could be deployed quickly into a trouble spot, and once on the ground be expected to maneuver in a way that would enable it to hold off heavier forces. Can a light division accomplish this task with its organic equipment, or will it have to be augmented with other units from, say, corps assets? If so, how will that affect the Army's demand for airlift? If such augmentation is needed, have we really gained anything in terms of a deployable response to a serious threat in, say, Southwest Asia?

ANSWER: When employed in low intensity conflict, light infantry divisions will not require external augmentation such as trucks and combat vehicles. Light infantry divisions are intended to provide a rapid reaction force before hostilities escalate and are effectively employed as organized.

If employed in other scenarios, the light division may require augmentation. This is not a requirement unique to the light division since all divisions, heavy as well as light, require combat and combat service support augmentation. Examples of this echelon above division support are reinforcing artillery, engineers and transportation units.

Since light infantry units are employed in restricted terrain and are generally given missions to retain that terrain, their transportation requirements for trucks and combat vehicles are

minimal. Therefore, light divisions do not have unique augmentation needs when employed as envisioned by their operational concept.

There are significant savings in sorties required to deploy a light division. This, coupled with the fact that the total logistics support requirements of the division are less (fewer people and less heavy equipment), allows us to make optimum use of limited lift assets.

What we have gained with the creation of the light divisions is a balance at the low end of the spectrum of conflict. We now have a rapidly deployable force that can quickly control the battlefield with large numbers of high-performing, well-led infantrymen. The light infantry division is a credible, capable force that can deploy to a crisis location before the onset of actual hostilities and preclude the need for further commitment of US forces.

LIGHT INFANTRY DIVISION UTILITY IN EUROPE

QUESTION: General Wickham, most people seem to believe that the most likely employment of the light division would be either as part of a rapid deployment force, or in a low intensity scenario. Would light forces have any utility in Europe?

ANSWER: Light divisions have utility for employment in the mid to high intensity environment of European conflict. Deploying from their bases in the US, these divisions will be capable of providing rapid reinforcement of forward deployed US forces in support of NATO.

Light infantry divisions can be employed throughout NATO's area of responsibility. NATO's rugged northern and southern flanks are clearly areas where light infantry can be most effective. Furthermore, the Central Region, which includes the North German Plain and the Fulda Gap, has many areas of rough, wooded terrain that is well suited to light infantry forces. All of the heavy division sectors in the Central Region can employ light infantry units on appropriate terrain. It is important to note that approximately 30% of West Germany is forested and 15% is urban. Both types of terrain are ideal for light forces.

Light infantry divisions when employed to reinforce forward deployed forces in NATO would be used primarily to cross-attach with heavy forces on appropriate terrain in the main battle area. Light infantry enhances the conventional deterrent by increasing NATO's ability to match forces to terrain. Light infantry employed in difficult terrain frees mechanized and armored forces for employment elsewhere where their mobility and firepower can be used offensively for more decisive effect.

LIGHT INFANTRY DIVISION SUSTAINMENT

QUESTION: General Wickham, is the light division a competitor to or an augment to the Marine Corps' maritime prepositioning ships (MPS) concept? An MPS Brigade has a limited though real capability for forcible entry, and the supplies to fight for thirty days. Can a light division go where it has not been invited, and if so, how long could it sustain itself in combat?

ANSWER: There is no conflict of interest between Army light

divisions and Marine missions. Marine Corps units are structured, trained, and equipped for amphibious and forcible entry operations in littoral areas, generally attendant to the prosecution of a naval campaign. Army forces are structured, trained, and equipped for prompt and sustained combat incident to operations on land. Marine forces are generally tied to off shore support. There are many possible contingency areas which are well inland and would be away from a Marine support base.

Light infantry divisions are not structured, equipped, or trained to conduct forced entry operations into a hostile area. This type of mission is not in the divisions' operational concept.

Once employed into a theater of operations the light division would be able to sustain itself without outside support for 48 hours. Follow-on logistics support as well as corps level combat service support units are required when any division, light or heavy, deploys for sustained combat.

INVESTMENT FUNDING

QUESTION. Secretary Marsh, of the \$82.0 billion the Army has requested, 36 percent is for investment accounts. Would you inform this subcommittee as to the current expenditures for Army's FY 1984 and FY 1985 investment funding?

ANSWER. Expenditures as of 31 January 1985 for Army's FY 1984 and FY 1985 investment accounts are 5 billion 819 million dollars and 506 million dollars, respectively. These amounts are cumulative from program inception.

Personnel and Operations & Maintenance Appropriations

QUESTION: Secretary Marsh, the FY 1986 Army request of \$82.0 billion includes 60 percent for Personnel and Operations & Maintenance appropriations. Since these are one year appropriations, what is the current obligation rates for the FY 1985 funding in these areas?. (If below 50% continue) How does the Army expect to receive a 10 percent increase overall when half of these appropriated funds have not been obligated in almost the first half of FY 1985.

ANSWER: The Army FY 1985 obligation plan projects a total O&M obligation rate of 50.6% thru the first half of the fiscal year. While March obligation data is not yet available, the latest report of actual obligations indicates we are slightly ahead of the plan through February. The same obligation plan projects a total Military Pay obligation rate of 46.7% through the first half of the fiscal year. The higher obligation rate during the second half of the fiscal year reflects the 3% pay raise scheduled to begin on 1 July. Army Military Personnel obligations through February are within approximately 1% of plan.

QUESTION. General Wickham, in yesterday's Defense Week it was stated that DIVAD's initial production tests, which began in November, prove that the weapon system is being improved continuously. By percentage, where does DIVAD stand on a reliability growth curve? Is this the standard expected at the time of initial production testing?

ANSWER. See attached chart.

SGT YORK (DIVAD) GUN
PRELIMINARY INITIAL PRODUCTION TEST (IPT) RELIABILITY RESULTS
AS OF 8 MARCH 1985

SUBSYSTEM	REQUIRED OPERATIONAL CAPABILITY	CONTRACT SPECIFICATIONS FOR IPT	INITIAL PRODUCTION TEST RESULTS	PERCENTAGE AS COMPARED TO RELIABILITY GROWTH CURVE	IS IT WHAT THE ARMY EXPECTED
ARMAMENT (MEAN ROUNDS BETWEEN FAILURE)	2000 ROUNDS	1700 ROUNDS MINIMUM	3500 ROUNDS	106% BETTER THAN IPT RE- QUIREMENT	BETTER THAN EXPECTED
FIRE CONTROL (MEAN TIME BETWEEN FAILURE)	95 HOURS	65 HOURS MINIMUM	79 HOURS	21% BETTER THAN IPT REQUIREMENT	AS EXPECTED
POWER & ACTUATION (MEAN TIME BETWEEN FAILURE)	-	100 HOURS MINIMUM	46 HOURS	46% OF IPT REQUIREMENT MET	NOT AS EXPECTED*
MOBILITY (MEAN MILES BETWEEN FAILURES)	-	340 MILES	416 MILES	22% BETTER THAN IPT REQUIREMENT	BETTER THAN EXPECTED

* CORRECTIVE ACTION IS UNDERWAY. 100 HR MTBF IS CONSIDERED ACHIEVABLE.

OFFICER/ENLISTED PERSONNEL RATIO JUSTIFICATION

QUESTION. Secretary Marsh, I would like to follow up on the point raised by Senator Rudman, but from a slightly different perspective. In his recent book, The Pentagon and the Art of War, Edward Luttwak observes that in terms of a ratio to enlisted men, there are six times as many lieutenant colonels/commanders and colonels/captains on active duty DOD-wide as there were in July 1945, well before the surrender of Japan. Now I understand the mobilization argument as a rationale for keeping large numbers of officers on active duty in peacetime, but isn't there a high cost, as Luttwak points out, to keeping them busy? Is he correct when he claims that this practice has led to a proliferation of overstaffed headquarters with little to do but micromanage their subordinates?

ANSWER. In July 1945, the Army had 10,822 colonels (COL), 29,287 lieutenant colonels (LTC), 70,248 majors (MAJ) and 7,213,079 enlisted personnel for an officer to enlisted ratio of 1-667 for COL, 1-244 for LTC, and 1-103 for MAJ. The Army will have 4,948 colonels, 11,060 lieutenant colonels, 17,493 majors and 666,245 enlisted personnel in FY86 for a ratio of 1-135 for COL, 1-60 for LTC, 1-38 for MAJ. Comparison of a peacetime Army to the maximum national mobilization during World War II is not a valid comparison. For example, this comparison ignores the tremendous enlisted increases under full mobilization for a massive increase in the training base, large increases in support personnel in overseas theaters of operation, large increases in transient and holdee accounts related to the increased strength and the large number of fully manned reserve and active component units that would be present in the active force during wartime.

Since 1982, the Army has taken action to reduce its field grade officer requirements primarily in headquarters and TDA units through the Force Alignment Plan II program. Under this program 348 colonel authorizations have been reduced to lieutenant colonel, 1422 lieutenant colonel authorizations have been reduced to major, and 3554 major authorizations have been reduced to captain. With the massive effort the Army is undergoing in force modernization, while at the same time improving readiness and increasing the capabilities of the force with no increase in end strength, I am convinced that our officer corps is productively employed in leading and managing the Army to ensure continued success in all of our missions.

ADVANCED COMBAT RIFLE (ACR)

QUESTION: General Wickham, the Army is budgeting \$2.5 million within the Joint Services Small Arms Program for technology base work on an advanced combat rifle using caseless ammunition. Do I understand this to be a joint service program? What is the contribution of the Marine Corps, Navy and Air Force?

ANSWER: This is a joint service program. The Marine Corps, Navy, Air Force and Army have designated individuals who jointly develop the technology program for the Joint Services Small Arms Program. The Army is the lead service and is responsible for the fiscal aspects of the program.

ADVANCED COMBAT RIFLE (ACR)

QUESTION: General Wickham, your program description states that the ACR may be accelerated into advanced development. Under what conditions would such an acceleration be made? What is the state of the caseless ammunition program? Does it make sense to accelerate the rifle if the caseless ammunition is not ready?

ANSWER: The acceleration decision will be based on a field test. The ACR must show a significant improvement over the current M16 in areas such as hit probability, weight and human engineering. Caseless ammunition technology development is on schedule. Caseless ammunition is one of the technologies being considered, along with plastic or metallic cases, for use in the ACR. Acceleration of the ACR is not dependent on caseless ammunition.

QUESTIONS SUBMITTED BY SENATOR STENNIS

PROCUREMENT FUNDS FOR ARMY RESERVE COMPONENTS

QUESTION. Secretary Marsh, why has the Army reduced Reserve Component procurement funding by 20%, while increasing active forces procurement funding by 14%?

ANSWER: The Army Reserve Components provide a major portion of total Army combat capability. For example, the Reserve Components provide:

- o 74% of infantry battalions
- o 43% of mechanized infantry battalions
- o 45% of armored battalions
- o 59% of field artillery battalions
- o 43% of aviation units.

One of the major impediments to wartime effectiveness of Army Reserve Components is the shortage of wartime equipment. The August 1984 report of OSD Reserve Forces Policy Board shows a wartime equipment shortage of \$15.6 billion, an increase of \$6.0 billion, or 62%, over the shortage reported a year earlier.

In 1985, Congress appropriated \$3.080 billion for procurement for Army Reserve Components. In 1986, the Army is requesting only \$2.452 billion for the Reserve Components, a reduction of \$.628 billion or 20% from the 1985 level.

While the Reserve Components' procurement budget declines by 20%, the remaining portion of the Army procurement budget increases by 14%.

Army Procurement Budget
(\$ Millions)

	1985	1986	\$	Change	%
Reserve Components					
Army appropriations	2,780	2,452			
DOD appropriations	300	--			
Total Reserves	3,080	2,452	-628	-20.4	
Active Army	16,596	18,914	+2,318	+14.0	

Considering:

-- The Reserve Components provide a major portion of total Army combat forces;

-- The Reserve Components have a large and growing shortage of wartime equipment.

Question: Secretary Marsh, why has the Army reduced Reserve Component procurement funding by 20%, while increasing active force procurement funding by 14%?

Answer: When the DOD appropriation add-on is omitted, the difference is 11%. DOD appropriations should not be reflected because they are not under the Army's discretion.

The Army does not budget procurement items separately for the Reserve Components. The Army buys for the Total Army and then distributes based on first to fight is first equipped. The Army P-1R exhibit represents approved predictive distribution plans for the Reserve Components (RC). The Army request in FY86 is based on total requirements to support the whole Army. The P-1R reflects only equipment, purchased with the FY86 funds, specifically approved for distribution to RC units.

RC modernization items for which procurement is planned are being documented and therefore were not fully displayed in the FY 86 P-1R. As RC unit documentation is completed, the distribution system will increase in total quantities and dollars in the P-1R exhibit.

The Army modifies used equipment at a lower price than it can procure new equipment. The P-1R displays the purchase cost for modification kits for the RC, but does not show the value of the previously purchased equipment being redistributed to the RC. Upgrading of the M60A1 Tank to the M60A3 and the conversion of the AH-1G to the AH-1S are two examples. This accounts for the much lower cost in upgrading equipment for the Reserve Components as compared to purchasing modernization items for the Active Components. The Army P-1R contains more than \$378 million for modification kits to improve RC equipment. Therefore, modernization of equipment for the RC will not always increase in proportion to the total Army buy. Furthermore, procurement for the RC will increase in FY 87 as follows:

	<u>1986</u>	<u>1987</u>	<u>Change</u>	
Reserve Components			\$	%
Army Appropriation	2,452	2,718	+266	+11

In addition to new and modified equipment the RC receives a substantial amount of redistributed equipment which is not modified and cannot be included in the P-1R. As the Army increases the procurement of modernized equipment, redistributed equipment for the RC is expected to accelerate. This equipment is reflected in the DOD Force Readiness Report.

OFFICER/ENLISTED PERSONNEL RATIO JUSTIFICATION

QUESTION. Secretary Marsh, please explain the reason for the steady reduction in the number of enlisted personnel per officer since 1978. Can we expect this expensive trend to continue indefinitely? Why does the Army replace 1,111 enlisted personnel with officers in the 1986 budget?

ANSWER. During FY85 the Army will be short an average of 3,181 officers during the year. The 1,111 increase in officer strength from end FY85 to end FY86 is primarily to reduce this shortfall in officer strength. The Army, on the other hand, has been able to reduce its requirements for enlisted personnel through force mod-

ernization, civilianization of administrative jobs, economies and efficiencies, and transfer of force structure to the Reserve Components. New systems being fielded to support force modernization are, for the most part, less man intensive but the organizations which contain these systems still require the same amount of officer leadership to manage the increased capabilities of the modernized units. For example, modernization has enabled us to reduce mechanized infantry squads and artillery gun sections from 11 to 9 soldiers. Positions in TDA units that do not require a soldier are being civilianized to provide soldiers to man the TOE units in the field. Improvements in technology, especially automatic data processing, are resulting in economies and efficiencies in other functions such as communications and administration. With our increased reliance on the Reserve Components, structure that is transferred from the active components, such as combat and support battalions, contains a very high proportion of enlisted personnel and tends to increase the officer to enlisted ratio of the remaining active force structure. The Army has made significant force enhancements without increasing the active component end strength. From FY85 to FY86 the Army is adding 10 maneuver battalions, 5 field artillery battalions, 7 air defense batteries, 10 air cavalry troops, and 3 attack helicopter battalions. Finally, in some cases the Army has decided to structure its TOE force with more units than can be fully manned with enlisted personnel in peacetime, thus increasing the leader to led ratio. On mobilization, understrength units that already have leaders and equipment can rapidly be brought to full combat capability.

ARMY SUPPORT MILITARY MANPOWER

QUESTION: Secretary Marsh, according to the 1986 Manpower Requirements Report, the Army is increasing Support Activity manpower in 1986 by 2,000 and reducing manpower for Tactical/Mobility Forces by 2,600.

Within the Tactical/Mobility Forces category, the Army is reducing the strength of Division Forces by 3,400.

	End Strength in Thousands		
	1985	1986	Change
Tactical Mobility	474.6	472.0	-2.6
Division Forces	(434.8)	(431.4)	(-3.4)
Support Activities	171.9	173.9	+2.0

While the Army has announced that it is forming new combat units in 1986, it seems that it is really shifting manpower away from Division Forces and into the Support establishment. Please explain the reason for these manpower changes.

ANSWER: The decrease in manning of the division forces between 1985 and 1986 is the net result of many individual modernization and restructuring initiatives. For example, reflected in this net decrease are the transition of heavy divisions to refined, smaller designs and the implementation of light division initiatives. This change should not be construed as a decrease in capability of our combat divisions. The increase in support activities is attributable mainly to increases in individual training and medical support, activities which support the Total Army.

The net decrease does not reflect the many changes that will continue due to modernization and restructuring. These are described on page III-46 of the 1986 Manpower Requirements Report. Included

within them are the initiatives that have allowed us to plan to field new, more compact and deployable combat units - in other words, to do more with less.

M1 Tank Tracks

QUESTION: General Wickham, I am told the Army is testing a West German design tank for the M1 in an effort to obtain better service life than the current domestic produced track. This track is apparently 3,000 pounds heavier than the domestic track and will require extensive changes to the tank undercarriage. Is this the only alternative available to the Army in an effort to get improved service life on the M1 tank?

ANSWER: There are other alternatives available to the Army, and they will be evaluated in the same time frame as the West German track. The alternatives include configuration/compound changes to the current track, along with evaluation of a US designed replaceable pad track similar to the West German track. Incorporation of the West German track requires a new sprocket, rubberized support roller, and harder rubber roadwheel.

QUESTION: General Wickham, what would the 3,000 pound penalty do to the Army logistic planning to support the M1 tank? Isn't the tank slightly over specified weight at the present time with the current track?

ANSWER: The 3,000 pound weight increase penalty will be evaluated from the vehicle standpoint in the 1985 test program. This program will evaluate factors such as fuel consumption, parts replacement frequency, and vehicle performance. Transportability and special tools are expected to be impacted and are part of additional evaluations required during the same time frame. Decision on track acceptability for the M1 tank will be made after the above evaluations have been completed. The current M1 tank meets its specified weight.

QUESTION: General Wickham, what would be the estimated cost per tank to accommodate the heavier track plus the required changes to the road wheels, sprockets and rollers?

ANSWER: Relative to production cost, the cost of changing the roadwheels, sprockets, and support rollers is the same as current production components (no cost substitution one for the other). The replaceable pad track is more expensive than the current track on the tank. It should be noted, however, that the primary thrust of adapting a new track is a reduction in life cycle cost, within acceptable combat performance limits. At the conclusion of the multi-candidate 1985 track test, the best overall track candidate, relative to baseline, will be selected.

QUESTION: General Wickham, apparently track weight and interoperability were the prime specifications in evaluating the current track. Has the Army revised its evaluation criteria for future track procurements?

ANSWER: The Army has revised its evaluation criteria on weight for future track procurements. This revision was based upon a closer review of the previous limits and the inability to document any significant impact caused by weight growth. The weight impact, of course, will be part of the evaluation during the 1985 track test program.

QUESTIONS SUBMITTED BY SENATOR BYRD

QUESTION: Mr. Secretary, at our meeting on February 25, I indicated that for a period of time, the U.S. Army had conducted some floating bridge activities on the New River, near Prince. I believe that these activities were conducted during the 1950s and 1960s and that the installation was called the "Fort Belvoir Camp Site." What can you tell me about this installation?

ANSWER: The 229 acres comprising the "Fort Belvoir Camp Site", along the New River in Fayette County, consisted of 16 parcels of land, which were leased from a total of seven private owners. Based on a request in 1951 from the U.S. Army Engineer Center, Fort Belvoir, the property was acquired to serve as a floating bridge test site. The leases were terminated in 1970.

INCREASED DA PRESENCE IN WEST VIRGINIA

QUESTION: Secretary Marsh, this area of the State of West Virginia is very hard pressed. What are the possibilities of increasing the Department of the Army's presence in this part of the state to help alleviate the chronic unemployment problems of the area? Would you look into that for me?

ANSWER: We are examining the potential for expanding Army activities throughout West Virginia. Our study will include the area around Princeton.

Military Entrance Processing Station, Beckley, West Virginia

QUESTION: Secretary Marsh, last year the Committee, at my request, included language in the report accompanying the fiscal year 1985 Defense Appropriations Bill, directing that no action be taken to transfer the Military Entrance Processing Station or its personnel from Beckley, West Virginia. I remain firmly convinced that this station and its personnel should not be moved from Beckley because such a transfer would have a serious adverse impact on the local economy, not only in jobs lost but also in revenues associated with the station. I am also informed that there may be a need for updated facilities for the Beckley Military Entrance Processing Station. Would you look into the matter of new construction and provide a response for the record?

ANSWER: There is definitely a need in Beckley for updated facilities. Headquarters, US Military Entrance Processing Command is preparing a requirements package to be forwarded to the Corps of Engineers. The Corps will submit an acquisition package to the Armed Services Committee for Title 10 leasing authority if the rent exceeds \$100,000 per year. At that time, the resources would have to be authorized. Then it is a matter of soliciting proposed offers from the Public Sector to lease properties. This solicitation could include build to lease options. The Corps of Engineers will then proceed under current procedures.

ADDITIONAL HELICOPTER UNITS

QUESTION: Mr. Secretary, I understand that the Army Reserve and the Army National Guard are being given increased responsibilities with regard to helicopter units. What can you tell me about any plans for locating such a unit in West Virginia?

ANSWER: Helicopter units in the Army Reserve and the National Guard will increase over the next five years. The increase in Army Reserve helicopter units will have no impact on West Virginia. Presently, there are no Army Reserve aviation facilities located in West Virginia. However, the Army National Guard presently has an aviation facility supporting four units with 21 aircraft. Under the Army of Excellence Reorganization Plan West Virginia would activate a Combat Aviation Company (with 23 aircraft) and inactivate the existing Armored Cavalry Regiment Aviation Section (with 7 aircraft). The two remaining aviation units are not effected by this reorganization.

5-YEAR CONSTRUCTION PLAN

QUESTION: Mr. Secretary, what construction projects are contemplated in the latest Army National Guard 5-year plans for West Virginia? Which, if any, of these projects could be accelerated into fiscal year 1986? What more can be done to modernize West Virginia Guard and Reserve facilities?

ANSWER: West Virginia Army National Guard has identified the following construction needs programed through fiscal year 1990.

FY	Location	Project
86	None	
87	None	
88	Camp Dawson	Barracks Building
88	Camp Dawson	Barracks Building
88	Camp Dawson	Dining Facility
88	Kingwood	Armory Addition
89	Camp Dawson	Barracks Building
89	Camp Dawson	Dining Facility
90	Camp Dawson	Barracks Addition
90	Camp Dawson	Dispensary
	Huntington	Aviation Support Facility
The U.S. Army Reserve has planned the following projects, in accordance with the current Army Five-Year Plan for Facilities:		
89	New Martinsville	100-Person Army Reserve Center Addition with Organizational Maintenance Shop
90	Parkersburg	100-Person Army Reserve Center Addition with Organizational Maintenance Shop
91	Rainelle	200-Person Army Reserve Center with Organizational Maintenance Shop
91	Kingwood	100-Person Army Reserve Center with Organizational Maintenance Shop

It should be noted that a program to expand the Army Reserve Training Center in Ripley West Virginia was added to the fiscal year 1985 Authorization Bill, but not appropriated. Fiscal resources are contingent on savings from execution of other projects. The project is 35 percent designed and is planned for award this fiscal year.

None of the above listed projects, for either the Army National Guard or U.S. Army Reserve, are at a design stage which permits acceleration into fiscal year 1986.

ARMY ACTIVITIES RELEVANT TO WEST VIRGINIA

QUESTION. Mr. Secretary, I trust you and your staff will continue to keep me personally informed on all matters relating to the Department of the Army and the Army National Guard in West Virginia. May I have your assurances on that?

ANSWER. Senator Byrd, I assure you that we will keep you informed.

25 February Meeting-Secretary Marsh & General Wickham

QUESTION. Secretary Marsh, General Wickham, I want to thank both of you for coming over to my office on February 25th to discuss ways in which we might further cooperate to strengthen the Army's presence in West Virginia. I look forward to your response to the matters I raised at that meeting, and especially to the matter of expansion of Camp Dawson at Kingwood, West Virginia, and the possible location of other Army facilities in West Virginia.

In addition to our recent meeting, I engaged in two colloquies on the Senate floor last October 3, with the distinguished chairman of the subcommittee, in which I enlisted his support to have the Department of the Army look into some of the matters we discussed on February 25, in my office. I ask that these colloquies be incorporated into the hearing record at this point.

Mr. Secretary, General Wickham, do you have anything you wish to report on these matters at this point?

ANSWER. Senator, at the present time the Army Staff is still considering the proposals discussed in late February. We will provide a separate report to you at a later date.



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Senate

WEDNESDAY, OCTOBER 3, 1984

(Legislative day of Monday, September 24, 1984)

Mr. BYRD. Mr. President, on another military matter, I recently returned from a groundbreaking event and graduation exercises at Camp Dawson, the West Virginia Army National Guard facility at Kingswood, WV. I was particularly impressed by the way the West Virginia military personnel conducted themselves under the leadership of Maj. Gen. John Wilson. I was, indeed, proud to be able to participate in these exercises.

Mr. President, based on utilization by the West Virginia Army National Guard, this facility was last "sized" or measured in 1981 for an overall capacity of 1,000 personnel. However, this facility also serves as a training base for Army Reserve, Regular Army, Marine Corps, and Air Force units, and, consequently the current projected capacity of 1,000 military personnel may be significantly underestimated. Therefore, I believe that the Federal National Guard Bureau should take a closer look at the facilities and operations at Camp Dawson with a view to "resizing" the capacity upward from 1,000 military personnel in order to take into account the wide variety of military personnel other than the West Virginia Army National Guard that utilize this military reservation.

If I could have the attention of the distinguished chairman of the Defense Appropriation Subcommittee (Mr. STEVENS), I should like to ask him if I could secure his cooperation in seeing to it that the National Guard Bureau would look into this matter. I am hopeful that such an investigation would result in plans for the expansion of the facilities at Camp Dawson.

Mr. STEVENS. Mr. President, I will be pleased to have the National Guard Bureau look into this matter. From what the distinguished minority leader has indicated, the capacity will likely need to be increased. I would fully expect that the personnel at the National Guard Bureau, when they read this part of the Congressional Record, will pursue this matter expeditiously.

Mr. BYRD. I sincerely thank the distinguished subcommittee chairman.

Mr. BYRD. Mr. President, I have been in contact with a number of Defense Department officials regarding the establishment of a permanent U.S. Army field training facility in West Virginia. These contacts have intensified as the Army has become increasingly interested in light, maneuverable infantry forces. West Virginia, with its mountainous terrain, offers very feasible conditions for realistic infantry training in a rugged environment. Moreover, the State could serve as a regional base for the latest and most modern warfare training involving computer driven simulators which are able to replicate in a most realistic way the battlefield conditions that our troops may someday face. The principal base for such simulated combat is the National Training Center at Fort Irwin, CA, but I believe that a field training center on the east coast may well be feasible and justified, both on an economic—transportation cost—and a security basis, and would not be intended to be in conflict with any existing stationing plan.

Mr. President, I note that the distinguished chairman of the Defense Appropriation Subcommittee is on the floor. I am hopeful that I might enlist his support in securing from the Department of the Army a workable plan which would involve the State of West Virginia in the establishment of a U.S. Army field training center for either/both light infantry forces training and/or computer simulated battlefield exercise training.

Mr. STEVENS. Mr. President, I would be most happy to assure the distinguished minority leader that I will strongly urge the Department of the Army to investigate, in an expeditious manner, a workable plan along the lines outlined by the Senator from West Virginia. It would be my expectation that the whole matter could be the subject of the hearings process early next year. I would expect the Department of the Army to pursue this matter with vigor based upon this colloquy.

Mr. BYRD. I thank the distinguished subcommittee chairman.

CONCLUDING REMARKS

Senator STEVENS. We have our next meeting on Thursday at 10 a.m., when we will have the overview of the Navy budget.

We do appreciate your being here, General McCall. We didn't get to you this morning, but we know you will be back again and again.

I want to thank you for your reference to your initiative, General, concerning the light division. When you first outlined that before this committee, it was something that caught our attention. Two of us have given it much more of our attention subsequently because of the decisions you made. We are looking forward to that development in Alaska. I spent time with General Patrick, who I see is with you today. It is a concept, I think, which is extremely worthwhile.

I want to talk to you sometime privately, and I think Senator D'Amato does, too, about the action that might be taken to decrease the number of airlifts required to move a light division, whether or not there is any way to combine some functions and to see what we might do to combine pieces of equipment so that it would be possible to move them using even a fewer number of C-130's or outsized aircraft. That is just a comment I make to you from the visit I had at Redstone Arsenal just 2 weeks ago. We welcome that concept of the light division, and I think that the country as a whole will be extremely pleased to see what you have produced with your innovative approach using your own manpower.

SUBCOMMITTEE RECESS

Thank you, gentlemen, for appearing here today. We will look forward to the detailed analyses of the Army budget as we have later hearings.

Secretary MARSH. Thank you, Mr. Chairman.

General WICKHAM. Thank you, sir.

[Whereupon, at 11:40 a.m., Tuesday, March 5, the subcommittee was recessed, to reconvene at the call of the Chair.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1986

THURSDAY, MARCH 7, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Garn, McClure, Kasten, D'Amato, Rudman, Stennis, Proxmire, Inouye, Hollings, and Chiles; also present: Senator Specter.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE NAVY

U.S. MARINE CORPS

STATEMENT OF HON. JOHN LEHMAN, SECRETARY OF THE NAVY

ACCOMPANIED BY:

ADM. JAMES D. WAKTINS, CHIEF OF NAVAL OPERATIONS

GEN. P.X. KELLEY, COMMANDANT OF THE MARINE CORPS

REAR ADM. DANIEL L. COOPER, DIRECTOR OF OFFICE OF BUDGET
AND REPORTS AND DIRECTOR OF FISCAL MANAGEMENT DIVISION

OVERVIEW OF NAVY BUDGET REQUEST

BUDGET REQUEST

Senator STEVENS. Good morning. This is the time to review the Navy budget estimate for fiscal year 1986. The total request is \$102 billion for Navy programs that are covered by our bill. It is an increase of \$8.7 billion over appropriations to date for the fiscal year that we are in now. Taking into account military construction, the Navy seeks about 4.5 to 5 percent real growth.

The recent Senate Budget Committee action really raises the stakes in this defense budget debate. Their action would specify a cut of \$19.2 billion in the appropriations bill pertaining to defense. Their action mandates a no real increase over the fiscal year 1985 spending as far as 1986 is concerned. It would be helpful if witnesses today might comment upon the impact of the budget proposal on the Navy and the Marine Corps.

COMPARATIVE STATEMENT OF BUDGET AUTHORITY

We would like to have the Navy submit a comparative statement of budget authority by appropriation account for the fiscal year 1984 through 1986, displaying real growth calculations based upon the latest economic indicators.

[The information follows:]

DEPARTMENT OF THE NAVY REAL GROWTH

REAL PROGRAM GROWTH (RPG) BY DEPARTMENT OF THE NAVY APPROPRIATION/ACCOUNT IN BUDGET AUTHORITY TERMS

[In fiscal years and thousands of dollars]

	1984	RPG (percent)	1985	RPG (percent)	1986	RPG (percent)
MPN	11,445,908	2.4	16,164,107	2.7	17,221,400	1.2
MPMC	3,520,369	2.0	4,967,143	1.7	5,217,400	-2
RPN	767,100	9.6	1,156,067	7.0	1,353,600	11.3
RPMC	176,200	.0	271,801	10.0	290,000	1.5
O&MN	22,265,628	4.4	25,334,741	10.2	25,797,700	2
O&MMC	1,547,720	2.6	1,650,894	2.4	1,667,400	-1.3
O&MNR	636,590	1.6	828,781	27.9	954,500	11.9
O&MMCR	52,349	.9	58,842	8.3	61,600	.9
APN	10,157,608	-5.5	10,903,798	1.8	12,062,600	5.0
WPN	3,771,579	3.7	4,353,611	9.5	5,627,900	22.7
SCN	11,484,848	-32.3	11,620,826	-3.7	11,411,600	-6.3
OPN	4,323,543	13.4	5,341,614	18.6	6,601,200	18.8
PMC	1,741,306	-15.8	1,836,722	.1	1,726,800	-10.6
RDT&EN	7,586,318	20.0	9,274,106	17.5	11,264,300	16.5
MCON	1,231,517	9.8	1,534,592	19.6	2,085,200	31.0
MCNR	30,605	16.9	60,800	90.6	51,800	-18.2
FHN&MC	611,149	-20.4	659,282	3.8	722,500	5.2
NSF	882,240	139.6	473,307	-48.3	716,500	40.7
MCSF	20,780	69.5	34,908	62.0	42,700	17.2

STATEMENT OF UNOBLIGATED BALANCES

Senator STEVENS. In addition, we ask the Navy to submit a statement of unobligated balances by account for the latest complete quarter and estimated for the end of fiscal year 1985.

[The information follows:]

UNOBLIGATED BALANCES

UNOBLIGATED BALANCES CARRIED FORWARD

[In fiscal years and millions of dollars]

Appropriation	1984	Estimated 1985
Aircraft procurement, Navy	2,888.4	2,691.5
Weapons procurement, Navy	1,923.3	1,809.0
Shipbuilding and conversion, Navy	12,016.4	12,247.6
Other procurement, Navy	1,988.6	1,639.7
Procurement, Marine Corps	737.2	687.5
Research, development, test and evaluation, Navy	404.2	517.3
Military construction, Navy	830.6	770.4
Military construction, Navy Reserve	16.5	19.1
Family housing construction, Navy	73.9	47.2

ADDITIONAL COMPARATIVE STATEMENTS

Senator STEVENS. We will put into the hearing record, since this is the first meeting on the Navy's budget, our own comparative statement of budget authority for defense activities included in this bill, together with a separate statement prepared by the Department of Defense for the fiscal years 1985 and 1986.

INTRODUCTION OF WITNESSES

We welcome you, Mr. Secretary, the Chief, Admiral Watkins, General Kelley, Admiral Cooper, and Mr. Comstock. All of your statements will be placed in the record in full as though read. We look forward to this overview, which is a first in a series that we will pursue as far as the Navy is concerned.

Senator STENNIS, do you have an opening statement.

Senator STENNIS. I have no opening statement, thank you. I just want to join you in welcoming the witnesses, and look forward to hearing their testimony.

Senator STEVENS. Senator McClure.

Senator MCCLURE. I have no opening statement, Mr. Chairman.

Senator STEVENS. Mr. Secretary, again we welcome you.

STATEMENT OF JOHN F. LEHMAN, JR.

OVERVIEW OF NAVY BUDGET

Secretary LEHMAN. Thank you, Mr. Chairman. It is a pleasure to appear, for the fifth time, to give you an overview of the status of the Navy and Marine Corps, to lay before you the budget for 1986, and to discuss the implications of some of the cuts that are being proposed as a result of the action by the Budget Committee.

As you know, the program for naval recovery that we put forward 4 years ago was based on simple, straightforward elements to guide how we allocate the resources, with the personnel as the very top priority. With the active participation and partnership of this subcommittee, we set about implementing a program to restore the competitiveness of the pay of our sailors and marines, and to restore the health of our manpower overall. That has been an enormous success, as you know.

MANNING

Four years ago, the fleet was only manned at 91 percent, and now, even with 60 added ships, we are manned at 100 percent, and with the best quality personnel we have ever had, something that everybody should take pride in. They were the right bonuses and the right pay increases at the right time, and they have paid enormous dividends to the taxpayer.

READINESS AND SUSTAINABILITY

The next priority was readiness and sustainability. As you know, our fleet was at a very low state of readiness 4 years ago because of years of deferral of spending on parts and maintenance. Now I am pleased to report that we have increased the overall readiness of our surface ships by some 30 percent, actual measured statistics.

We have increased the readiness of our aircraft squadrons by some 45 percent in that same 4-year period.

We are now in a position where we have been able to buy enough spare parts to fill the bins and to see that the readiness is maintained at its current high levels. I was shocked when I came in, to find that we could not load out our reduced fleet even once with the key ammunition, missiles, torpedoes and defensive systems. We are now to the point where we have increased most of our ammunition stocks by between 40 and 60 percent, and there is much more in the pipeline. But, of course, we still have a long way to go.

SHIPYARD PRODUCTION

We pledged, 4 years ago, to essentially double the rate of production in our shipyards, to spread the work. We have increased Navy shipbuilding from only nine shipyards in 1980 to 21 shipyards doing Navy business today. At the same time, we have been able to totally change the method of doing business in shipbuilding by increasing competition from some 16 percent 4 years ago to nearly 86 percent this year. We have second-sourced all of our ships, except for the largest, and we have put all of our ships now on fixed price contracting. As a result, we saved \$2.4 billion in cost underruns over this past 4 years.

AIRCRAFT PRODUCTION

We have had similar results in aircraft production. As you know, for 8 straight years preceding 1981, the Navy essentially did not have sufficient funding to buy enough aircraft to even replace the aircraft lost in training accidents. We doubled the number of aircraft, beginning with the 1982 budget, to roughly 300 aircraft, which is just a little below the national level needed to maintain the force we have. We have kept it there for 4 years.

We have totally overhauled the way we develop and buy aircraft. All of our aircraft are now on firm fixed-price contracts. Last year, we brought them all in for an average of 8 percent below the budget estimates. The year before, we brought them in for an average of 12 percent below the budget. So the reforms we have made in contracting, procurement, and discipline have brought about enormous payoffs.

NAVY GOALS ON LINE

We are essentially, Mr. Chairman, still on course, still accomplishing what we said we would accomplish 4 years ago despite the fact that some \$40 billion has been cut from our budget since the initial 5-year program was set up in March 1981. I think the committee can take great pride in seeing that while the Navy Department has averaged about 6-percent real growth overall for each of the past 4 years, in my judgment, we have gotten more than 100-percent increase in real capability.

PROPOSED CUTS COUNTERPRODUCTIVE

This is what you should keep very firmly in mind as you consider the impact of cuts on anything approaching the scale that has been

proposed by the Budget Committee. Because, just as we got the enormous leverage from the 6-percent increases by enabling us to increase competition from 16 to 86 percent. To bring in second sources, to bring back many of the 30,000 suppliers that dropped out of Navy business in the 1970's, to broaden the industrial and competitive base, and to increase the production rates so that we can bring unit costs down substantially, all of these things that have given us leverage and synergism that has gotten the actual output to the fleet far beyond a mere 6-percent increase in funding, can chase the reverse to be true in exactly the same proportion to cuts from this point.

You will force us to make very counterproductive moves in reducing the rates of production. It will de facto force us back below the 21 shipyards that provide us the competition today. We will lose the second sources in so many programs that cannot be supported at lower rates of production. We will go back to sole-source monopoly relationships with many of our suppliers that were the root cause of the asymptotic cost increases of the 1970's. The net result will be far greater damage than the decrease in overall funding that the cuts bring about.

Particularly bear in mind that some 60 percent of the entire Navy budget goes simply to operate the fleet that we have today. The fleet that we have today is very heavily committed to foreign policy deployments around the world. We see no improvement in the world situation that would tell us that Congress is prepared to cut commitments that would enable us to bring parts of the fleet home, so the requirements will remain. Therefore, we worry a great deal about the prospect of cuts coming upon us in the middle of this recovery that has been so successful with such leverage. It could all end very, very suddenly.

Thank you, Mr. Chairman.

Senator STEVENS. Thank you.

[The prepared statement of Secretary Lehman follows:]

PREPARED STATEMENT OF HON. JOHN F. LEHMAN, JR.

SECRETARY OF THE NAVY

Mr. Chairman,

I welcome this opportunity to appear for the fifth time to offer my assessment of the current posture of the Navy/Marine Corps team and to present the Department of the Navy Budget for Fiscal Year 1986.

As you review the result of President Reagan's naval recovery program of the last four years and begin the process of making decisions to guide its continuation for the next four years, I urge you to keep one principle paramount -- accountability. Our democratic processes cannot succeed over time unless congressional actions are based on an accurate perception of facts, a clear understanding of cause and effect, and a recognition of which actions have succeeded and which have failed. Your task is doubly difficult because so much misinformation has poured into the public and congressional debate on the issue of the defense build-up of the last four years. In the post-war period, I doubt if there has ever been an issue treated in the media with such careless inattention to fact, or one addressed by so many amateurs purporting to speak with authority.

You may be sure that we in the Navy and Marine Corps will work with you to establish the true facts, to uncover the real chains of causality, and to understand which actions deserve your praise and encouragement and which your censure. At the end of the legislative process, I am confident you will take great pride in your partnership with the Department of the Navy and in the satisfaction that the 7 percent average annual real growth in resources that you have provided to us over the past 4 years has already accomplished significantly more than 7 percent growth in real capability, in quality, and in increased security. In my judgment, because of the unbelievable human quality, morale improvements, readiness and modernization improvements, and an increase in weapons systems capability, we have doubled our naval capabilities over the past 4 years.

PROGRESS REPORT

This committee well knows that it was only 5 years ago that the Chief of Naval Operations testified to Congress that the United States Navy no longer enjoyed superiority at sea. He expressed the imbalance between our naval capability and the missions required by national policy concisely: "we are trying to meet a three ocean requirement with a one-and-a-half-ocean Navy."

Four years ago this Administration submitted a naval recovery program that has guided our actions ever since. The program was based on President Reagan's commitment that, as he put it, "maritime superiority is for us a necessity." This necessity is but one component of our national defense strategy. Nevertheless, it is a fundamental requirement necessary for the success of any national strategy. The growth of the Soviet fleet into a global blue water navy, a navy whose active deployments are now visible in our newspapers virtually every week, has meant that no coalition defense based on our global alliances could be executed without the rapid adoption of a different naval strategy and a larger fleet to carry it out. The program put forward four years ago to achieve this was simple and well defined. It was built upon seven elements:

- First, a more realistic strategy for the use of Navy/ Marine Corps forces to maximize their deterrence in peacetime, and to prevail if deterrence fails.

- Second, the restoration of the quality, training, and morale of our personnel.

- Third, the restoration of the readiness of the Navy and Marine Corps through adequate maintenance, repair, spare parts, and support.

- Fourth, the modernization of our sea-based nuclear deterrent, the most survivable and enduring component of the U.S. strategic triad.

- Fifth, The establishment of a shipbuilding, reactivation, and conversion program to increase the force with the right kinds of ships and to save an industrial base on the verge of collapse.

- Sixth, To establish an aircraft modernization and procurement program to restore aircraft numbers and quality to meet operational requirements.

- Seventh, to build up stocks of ammunition and missiles to realistic objectives for sustaining combat.

I am pleased to report that our objectives remain exactly the same today as originally outlined four years ago and that the Navy and the Marine Corps are on course and on schedule in achieving them. In fact we are considerably further along than is generally recognized. Taking each of the seven elements in turn:

STRATEGY.

Our maritime strategy is simple and straightforward because the tasks demanded of our naval forces are simple and straightforward:

- First, to prevent the seas from becoming a hostile medium of attack against the United States and its allies.

- Second, to ensure that we have unimpeded use of our ocean life lines to our allies, our forward deployed forces in peace and war, our energy and mineral resources, and our trading partners; to be able to project force from the seas in support of our national security objectives short of war; and to be able to bring force to bear directly in support of combat ashore, should deterrence fail.

The global maritime strategy set forward four years ago has been continuously refined and applied to training. It is a coherent and flexible strategy designed to be but one part - the prerequisite part - of our total national military strategy. It is also designed to incorporate not only Navy and Marine Corps forces, but is critically dependent on those of our sister services and the forces of our allies. By eliminating needless overlap in total capabilities, we believe our program will leave no vital maritime tasks uncovered. The past four years have seen major new agreements between the Navy/Marine Corps and the Air Force, the Army and the Coast Guard. In addition we have made extensive progress in multi-lateral and bi-lateral agreements with allied navies and air forces.

The fact that U.S. Air Force AWACS, tankers, and fighters are now an integral part of every significant naval exercise and theater strategy attests to the fact that while inter-service rivalry is strong on the playing fields of service academies, it does not interfere with the effective integration of operating forces.

Our maritime strategy is continually tested, refined, and updated through several important processes. The Navy senior operational commanders review it individually and as a group at

least twice a year. It is examined, challenged, probed, and refined at the international level with senior American and allied military and civilian officials. We test it repeatedly in war games and simulations, especially the annual global war games at the Naval War College in Newport, Rhode Island. It is used as the planning base for our major exercises -- Navy, joint, and multi-national -- and the exercises themselves become the crucible for testing its refinement and challenging its assumptions. Every exercise provides useful lessons learned, to be fed back into the planning process.

In addition lessons learned from every real-world crisis or conflict are applied immediately and integrated into our strategy. Lessons learned from the Falklands Islands War, our own and Israeli operations in Lebanon, the Grenada intervention, and our constant monitoring of Soviet exercises and deployments are all examples. Much of our budget request this year has been modified since last year by the lessons learned from intervening events as applied to our overall strategy. For example, in response to urgent requirements in Lebanon in 1983, the Navy purchased eight MASTIFF mini-RPVs (Remotely Piloted Vehicles) from Israel. A Marine detachment has been formed to operate them and a Navy RPV unit will be designated in the near future. Also in December 1983, as a result of lessons learned from the Falklands, we accelerated installation of the PHALANX close-in weapons system on eighteen ships serving in the dangerous waters of the Middle East. As a result of Grenada operations analysis, we have modified communications equipment to improve interoperability in the future with U.S. Army ground forces.

MARITIME STRATEGY AND THE BUDGET

It is important to understand the role that our maritime strategy plays in providing the foundation for building our annual budget. The Department of the Navy Planning and Programming cycle begins with a re-examination of our current strategy, and throughout the process we seek to identify those "strategy-stoppers" and uncertainties that may preclude us from executing it effectively. The principal role in identifying "strategy-stoppers" is played by the joint theater Commanders-in-Chief and the Navy fleet Commanders-in-Chief, in their quarterly reports. Based on their judgments, we then develop programs and plans to negate the most critical "strategy-stoppers" and to hedge against the most significant uncertainties.

PERSONNEL

The past four years have seen the most dramatic change in the manning of the Navy and Marine Corps in the 209 years of our history. From the worst retention and recruiting in postwar history in 1979 and 1980, we have risen to the highest figures achieved since we began keeping records. We are meeting 100 percent of our recruiting goals, and have achieved 95 percent high school graduates in the Marine Corps and 93 percent in the Navy. In virtually every category we have increased retention to record highs: in skilled enlisted ratings, in pilots and Naval Flight Officers (NFO's), in nuclear trained personnel and surface warfare officers. From a situation four years ago when some of our ships could not deploy on schedule because the fleet was manned at only 91 percent, we are now at 100 percent ship manning for a Navy that has grown by more than 50 ships. In 1981, 13 percent of our ships and 25 percent of our aircraft squadrons were reporting themselves

not combat ready as a result of personnel shortages. Today those percentages have dropped to less than one percent of each. The petty officer shortfall, which stood four years ago at 22,000, has been reduced now to below 6,000 and will be eliminated by 1988 if current trends continue.

The reorganization of the Naval Reserve to a "horizontal integration" has had the effect of shifting a substantial portion of our force structure manning to the Ready Reserve. A total of 35 ships of the 600 ship Navy will be manned by Selected Reserves, in addition to the augmentation of essentially all naval units by Selected Reserves upon mobilization. The fifteenth active carrier air wing has been deleted from the program and the fifteenth carrier will carry a Reserve Air Wing. This increased dependence on the use of the Ready Reserve has enabled us to hold the active manpower growth to about 1 percent per year.

A very significant indicator of the greater proficiency of our personnel is the aircraft accident rate. 1984 was the safest year for the fourth straight year in naval aviation history and the major mishap rate has dropped from 5.94 mishaps per hundred thousand flight hours in 1980 to only 3.31 per hundred thousand flying hours in 1984. That has brought about dollar savings in uncrashed aircraft in 1984 alone of nearly 200 Million dollars and the avoidance of much human tragedy.

READINESS

The fleet is more ready to go in harms way than at any time in recent peacetime history. In the past four years, combat readiness for surface ships has improved by 29 percentage points, for nuclear attack submarines by 34 percent and aviation squadrons by 42 percent. From FY-1981 to FY-1985, actual in-bin munition levels for Navy and Marine Corps major weapons (e.g. missiles and torpedoes) increased by 37 percent. (From FY-1985 to FY-1987, when current contracts will be delivered, these levels will increase by another 41 percent.) Despite the fact that there is a two to three year lag between funding and delivery, our overall ordnance stocks have grown between 10 and 60 percent larger than they were in 1981 and are increasing literally every day as deliveries reach the fleet.

The net increase in spare parts and ammunition has been far greater than the actual increase in funding applied to it. The reason has been the dramatic reforms in the way we have managed these funds. Despite the misinformation provided by self-appointed experts on defense procurement, the Navy initiated a major reform of its spare parts buying under the direction of the Secretary of Defense. Nearly all of the horror stories appearing in the press were the result of a vigorous pursuit of abuse by Navy personnel at all levels. We have been able, for instance, to raise competition in our purchase of aviation spares from a deplorable low of 6.9 percent in 1982 to the current level of 25.4 percent and climbing. As a result, the increase of end items to the fleet is substantially more than the increase of funding would suggest.

SEA-BASED NUCLEAR DETERRENT

The modernization of our sea-based leg of the strategic deterrent is proceeding well. We have added five TRIDENT SSBNs to the fleet since 1981, with seven others authorized and building. The latest addition to the fleet was USS HENRY M. JACKSON, commissioned in October 1984. During sea trials, TRIDENT submarines have met or exceeded all of their design specifications.

The first eight TRIDENT SSBNs are outfitting with the TRIDENT I (C-4) missile, joining twelve POSEIDON SSBNs equipped with the TRIDENT I. Over the past four years the development schedule of the TRIDENT II (D-5) was begun and then accelerated to an IOC of 1989. In addition, we have greatly strengthened command and control of our strategic forces, including construction of the Extremely Low Frequency (ELF) communication system, and have begun development of a follow-on TACAMO command and control aircraft. Last year we began deployment of the TOMAHAWK sea-launched cruise missile equipped with nuclear warheads for theater nuclear deterrence. They are now operationally capable on our attack submarines, destroyers, and reactivated battleships. This highly reliable, accurate, low cost weapons system is a tremendous force multiplier that adds a new and very stabilizing dimension to our deterrent posture.

SHIPBUILDING

Four years ago the President set a goal of doubling the naval shipbuilding program. We have maintained that ambitious goal despite continuing cuts from the original budget estimates. We have brought dramatic new efficiency and discipline to the management of navy shipbuilding, increasing the percentage of the shipbuilding budget awarded competitively from 15.7 percent in FY-1980 to 84.3 percent in FY-1985.

From the 479 battle force ships in the Fleet when President Reagan took office, the fleet has grown to 530 ships today and 545 by the end of the FY, reaching 600 by the end of 1989. There are currently 103 naval ships now under construction, conversion or reactivation, at twenty-one different yards throughout the United States. By cancelling the Carter Administration plans to retire the aircraft carriers CORAL SEA and MIDWAY, and the DDG-2 and DDG-37 class destroyers, and by reactivating the battleships, we have been able to expand the fleet rapidly over the past four years without sacrificing investment in new construction for the 90's and the next century. An added benefit of this approach has been a major influx of new business and employment in the shipyards doing conversion, reactivation, overhaul, and ship repair. Because of the major emphasis on readiness maintenance spending, we have been able to reduce the backlog of ships awaiting overhaul from sixteen in 1981 to zero today even as we have increased the fleet by more than 50 ships.

A substantial benefit to the economy and to deficit reduction has been the immediate creation of very substantial numbers of jobs in a declining shipbuilding and repair industry. The Navy shipbuilding and repair programs now account for over 80 percent of all employment in that industry in the United States. On the larger impact of Navy shipbuilding, it has been estimated that every billion dollars in the Navy shipbuilding program creates 27,000 direct jobs and 15,000 secondary jobs.

AIRCRAFT

In each of the eight years preceding the Reagan rearmament program, the Department of the Navy was not able to procure enough aircraft to replace those lost through peacetime attrition. In each of the past four years, however, naval aircraft procurement has been nearly doubled from the average levels of the preceding four, and procurement of aircraft spares has more than tripled. These high rates of procurement have been maintained, despite successive budget cuts during those years, because of an historic reversal of cost trends in naval aircraft programs. For the third straight year, all naval aircraft procurement programs are on a firm-fixed-price contract basis, precluding the possibility of

production cost overruns, and the annual prices of our new tactical aircraft have actually been coming down. Competitive pressures have been maintained by keeping four separate fighter and attack aircraft in production. In addition, we have been able to maintain stable production rates through most of our aircraft lines. The first Navy and Marine Corps strike fighter squadrons are now in full operation with the F/A-18 Hornet. The carrier CONSTELLATION has now deployed with the first operational carrier air wing to include the F/A-18.

As part of the Reagan Administration emphasis on the Ready Reserve, new reserve units have been established and our reserve pilots are flying front-line Navy aircraft. Some of these flying units are augmentation units to fill out fleet squadron strength upon mobilization, and others are commissioned squadrons.

WEAPONS AND AMMUNITION

In the decade preceding the Reagan Administration, the Marine Corps was unable to procure sufficient ammunition to replace the stocks expended in normal peacetime training. As a result, sustainability and war reserves disappeared. During that same period, the Navy was held to such low levels of procurement of ammunition, missiles, and torpedoes that four years ago we did not have sufficient stocks to load out the reduced fleet of 479 ships -- even once with full magazines. We had less than a week's supply of the most important air defense munitions. Such enormous shortages created over a decade of unilateral disarmament in the 70's are not going to disappear overnight. But four years of sustained growth in our ammunition accounts has now begun to refill our munitions stockpiles. Ammunition and weapons funding was increased by more than 65 percent in real terms over the last four years, and a major reform of our procurement practices in munitions, emphasizing competition and dual sourcing, has made it possible now to have in hand the production rates necessary to reach our complete war fighting sustainability goals by 1989. That procurement rate is funded in the current budget.

THE NAVY IS READY

As the progress report above makes clear, the course to re-establish maritime superiority set four years ago has not waivered. Momentum has continued to keep us on schedule. We have achieved an effective balance between building for the future and making the fleet we have today a maximum-ready fighting force. These results have already added enormously to our ability to deter Soviet adventurism and to stabilize the peace. The Fleet and the Fleet Marine Force are more ready to go in harm's way than at any time in postwar history. Our friends and adversaries alike know this.

SOVIET NAVAL STRATEGY AND OPERATIONS DURING 1984

No plan, however well conceived, and no strategy, however well knit, should proceed with its assumptions unexamined. As the President's second term begins, it is essential that we consider once again the basis of our maritime strategy. Has anything changed about the Soviet threat that warrants an adjustment of our program? Is the international environment more conducive to the peaceful pursuit of maritime interests?

The clear answers to these questions are provided by the Soviets themselves and the nature of their naval operations.

During the 70's, the Navy described annually to Congress the

enormous investment and effort going into the blue-water naval construction program in the Soviet Union. During that same period, we began to see their success in establishing major naval and naval air facilities around the globe in Viet Nam, Cuba, Ethiopia, South Yemen, Angola, and other areas. Moreover, we have observed them develop their exercises and training around a blue water strategy. In 1984 we have seen more visibly than ever the fruits of their substantial efforts and investments of the 60's and the 70's. Today they sit astride our vital maritime vulnerabilities in the Caribbean Straits, the Southeast Asian choke-points, the East and West African oil sea lanes, the Middle East oil sources, and off the Northern and Southern flanks of NATO.

Early in 1984 the Soviet Navy conducted the largest naval exercises they have ever conducted in the European theater. More than 200 naval combatants deployed in the Barents, Norwegian, and North Seas. We saw the long-range use of air force and navy BACKFIRES and medium and heavy bombers, and we saw the employment of about 70 Soviet submarines in an integrated surface, submarine, and amphibious, and air exercise. The nature of their exercise left little doubt that the Soviets seek to gain control of the Northern flank of NATO immediately in the event of war.

In our own hemisphere during 1984, the Soviets again deployed a major surface task force, including the MOSKVA guided missile helicopter cruiser, a new UDALOY class guided missile destroyer, a replenishment ship, and submarine to the Caribbean. This was followed later in the year by another surface task force deployed to the Caribbean with a new SOVREMENNY class guided missile destroyer and four other ships. These were the 23rd and 24th regular deployments to the Caribbean by the new Soviet blue water fleet. This is one more manifestation of their projection of maritime power into the hemisphere most visibly evidenced by the now near-continuous off-loading of Soviet military hardware from east-bloc ships in Nicaragua.

In the Pacific the Soviets now have a permanent Pacific fleet of more than 500 ships including more than 130 submarines and 2 aircraft carriers. As we saw in the newspapers with the collision between the KITTY HAWK aircraft carrier and the Soviet VICTOR submarine, their submarines now are deployed regularly among all of our exercises and astride all of our sea lanes. They are more aware than most Americans that the United States has become dependent for nearly half of its oil needs on the sea lanes and that, in fact, the U.S. is considerably more dependent on sea-borne Alaskan oil than on Middle East oil. They are more aware than most Americans that our sea-borne commerce with our Pacific trading partners now amounts to more than 130 percent of our commerce with our Atlantic trading partners.

The Soviets are demonstrating every day at sea that we no longer have a passive defensive strategy available to us on the world's oceans. Unlike World War II, we do not have a merchant marine able to sustain losses in a submarine war of attrition. The Soviets today have more than 270 attack submarines, while Hitler very nearly won the Second World War in 1942 with about 60 submarines operational during most of the year.

The Soviet submarine threat is of particular concern and 1983 and 1984 saw major developments. Not only did we have two incidents of Soviet nuclear attack submarines actually hitting or inadvertently fouling our surface combatants, but we have now seen a developing pattern of regular deployments of nuclear attack submarines close off our principal naval ports. These Soviet nuclear submarines today have made great strides in quieting and overall capability in sensors and weapons. They currently are

building three new classes of nuclear attack submarines, the SIERRA, MIKE, and AKULA, and one new class of diesel attack submarine, the KILO. They are building two distinct classes of ballistic missile submarines, the TYPHOON and DELTA IV, and have at least one new submarine-launched ballistic missile program, the SS-NX-23.

While the Soviets have had long-range cruise missiles capable of land attack deployed for more than 20 years, they deployed in 1984 for the first time a longer-range submarine-launched cruise missile comparable to our TOMAHAWK. While this new nuclear capability does not add to the target coverage or overall threat already existing against U.S. targets in their SLBM force, it does complicate our ability to ensure warning time for attack against our bomber bases. For the last five years the Soviets have averaged a production rate for all submarines of about 10 per year. This rate is expected to continue for the next four years at least.

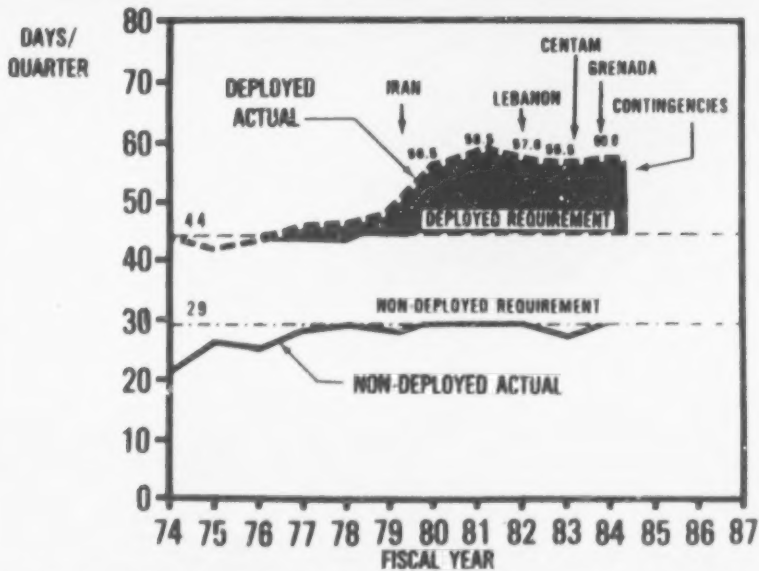
As you have seen reported recently in the press, the Soviets are well along on their construction of their first full scale nuclear powered aircraft carrier able to operate catapult-launched and arrested naval aircraft. We expect this ship to be operational in about 1990 and for it to be the first of a series.

NAVAL OPERATIONS IN 1984

It is well known by this committee that the naval service operates little differently in peacetime than it does in war. Naval operations in 1984 reflect the many responsibilities carried in normal peacetime deterrence around the world. Four years ago I testified that we were at a higher OPTEMPO than we were at the height of the Viet Nam War and that the Fleet was spending more time at sea than it had even averaged in the Second World War. It is one of my great disappointments that, despite adding some 50 ships to our operational fleet, we have been unable to make an appreciable reduction in OPTEMPO and the excessive time that naval personnel must spend away from their families. It is a top goal of the next four years to make substantial improvements in the time away from home port required of our sailors. A good example of this peacetime OPTEMPO was the deployment of the battleship NEW JERSEY during 1983 and 1984. She left Long Beach, California in June of 1983 on what was to have been a 2 1/2 month shakedown cruise in the Western Pacific. She traveled to Thailand and the Philippines for joint exercises and was then ordered to Central America where she cruised for several weeks. She then transited the Panama Canal and proceeded, at an average of 25 knots, non-stop to a position off Beirut to support the Marine Amphibious Unit ashore. She remained there until May of 1984, having spent 322 days underway with only 3 port visits on a voyage that covered 76,000 miles. Yet during that full-year cruise, she never went below C-2 in readiness status and her crew morale and performance could not have been exceeded. She was assisted by more than 10 thousand sailor days of service from selected ready reservists on voluntary active duty tours.

While off Beirut, NEW JERSEY proved the tremendous worth of the battleships. Operating in support of the Marines ashore, she fired 5-inch and 16-inch naval gunfire on numerous occasions. On one day alone, she put 300 rounds of 16-inch on a ridge overlooking Beirut on which were placed hostile artillery batteries that had fired more than 5000 rounds into areas of the city containing U.S. personnel, inflicting substantial civilian casualties. While television interviews with hostile personnel reported that the gunfire didn't hurt, the firing into Beirut

SHIP OPTEMPO

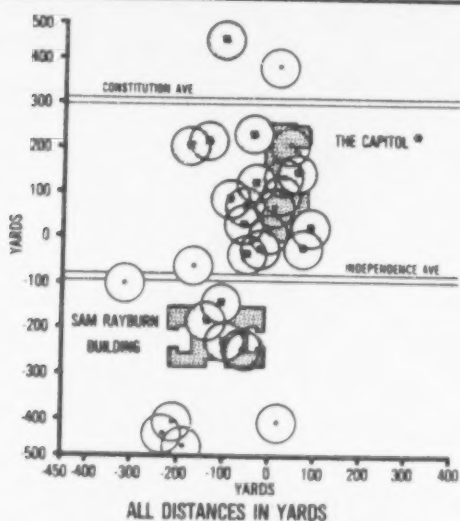


SINCE 1978 DEPLOYED FORCES HAVE BEEN OPERATED BEYOND READINESS REQUIREMENTS TO COVER CONTINGENCIES:

CONTINUOUS INDIAN OCEAN PRESENCE
CENTRAL AMERICA
LEBANON
GRENADA

ceased immediately and ten numbered hostile batteries disappeared from the reporting force structure. The very high accuracy of the 16-inch gunfire and the lethal effect of the 1900- and 2700-pound projectiles makes the battleship one of the most effective weapon systems in the world today. The chart below depicts the measured accuracy of the qualification firings of the battleship IOWA on 21 July 1984. Firing from ranges of 8,000, 15,000, 25,000, and 35,000 yards, IOWA literally blanketed the 200 X 200 meter square target with shells fired from distances of 13 and 18 miles.

USS IOWA (BB 61) 16-INCH FIRINGS



⊙ 16 ROUNDS FIRED FROM 25 THOUSAND YARDS

○ 16 ROUNDS FIRED FROM 36 THOUSAND YARDS

* The U.S. Capitol has been overlaid on the chart for comparison.

1984 also saw our first AEGIS-equipped guided missile cruiser TICONDEROGA spend over 80 percent of her time underway during a 6 1/2 month maiden cruise to the North Atlantic and the Mediterranean. In the Mediterranean she conducted 2,500 training intercepts of aircraft from two U.S. Navy carriers and fired naval gunfire missions in support of Marines in Lebanon. She then returned to the Caribbean for a final OPEVAL test in which she successfully downed 10 of 11 multiple target drones.

During 1984 the aircraft carrier RANGER and her battle group operating in the Pacific and Indian Oceans set a record for sustained continuous operations for conventionally powered carrier battle groups. They remained at sea for 121 days, steaming more than 50,000 miles.

Early in 1984 the Mediterranean Amphibious Ready Group evacuated nearly 1,000 non-combatant Americans and foreign nationals from Lebanese ports using Marine helicopters and Navy landing craft. The evacuees were then transported from our amphibious ships off Lebanon to Cyprus. This was the same amphibious group that had earlier evacuated the American citizens and students from Grenada.

In 1984, we also deployed on short notice to find and neutralize mines which were endangering shipping in the Gulf of Suez. The surveying ship HARKNESS, the amphibious transport dock SHREVEPORT, and a detachment of RH-53D minesweeping helicopters were provided, supported by U.S. Air Force units and in cooperation with allied naval forces. Three minesweeping

helicopters and the Middle East Force Flagship USS LA SALLE also operated off Saudi Arabian ports in response to a request from the Saudi government. During this combined operation, minesweepers from the United Kingdom recovered a new mine manufactured in the Soviet Union and believed to have been sown by a Libyan vessel.

In 1984, our SSBNs completed their 2,200th patrol, and routine naval presence was maintained continuously in the Mediterranean, the Western Pacific, the Indian Ocean and the Caribbean. In addition, significant exercises and deployments were conducted off both coasts of South America and off West Africa, and in the Norwegian, Baltic, and Black Seas, and the southwest Pacific. Naval exercises were held with virtually all our maritime allies and virtually all major naval exercises were conducted with active participation by U.S. Air Force and Coast Guard and some Army units. In the course of these deployments we concluded the first visit to an Indian port by a U.S. naval warship in 13 years.

U.S. - PRC NAVAL RELATIONS

At the invitation of Defense Minister Zhang Aiping of the People's Republic of China, I traveled to China for 3 days of discussions with Premier Zhao Ziyang, Defense Minister Zhang Aiping, Admiral Liu Huaqing, head of the Chinese Navy, and other officials of the Peoples Liberation Army.

Continuing the initiatives of Secretary Weinberger with his visit to China in September 1983, we discussed actions to begin cooperative relations between the United States Navy and Marine Corps, and the Chinese Navy. The Chinese agreed in principle to permit U.S. naval ships to visit Chinese naval ports, and to send Chinese naval ships to visit U.S. ports at a later time. We agreed in principle to begin discussions on cooperating on the modernization of the anti-submarine warfare capabilities of the PRC Navy. I extended an invitation to Admiral Liu to visit the United States as a guest of the Chief of Naval Operations and the Commandant of the Marine Corps. He in turn asked me to extend an invitation to Admiral Watkins and to General Kelly to visit the PRC. An invitation was also extended to the Minister of Defense and Admiral Liu to visit a carrier battle group at a convenient time in the future.

The remainder of the visit was spent as guests of the PRC Navy visiting the North Fleet and East Fleet headquarters at Qing Dao and Shanghai, and inspecting various schools and ships and facilities of the Chinese Navy. The welcome extended by the Chinese Navy could not have been more cordial and our discussions were serious and productive. We are confident that cooperation between our two navies will be to the mutual benefit of both in increasing the stability of peace in the Western Pacific.

DEPARTMENT OF THE NAVY MANAGEMENT INITIATIVES

The remarkable progress achieved in four years in the naval recovery program is testimony to the success of the vigorous program of management reform instituted by Secretary Weinberger. Four years ago he reversed a long and disastrous trend toward centralization and bureaucratization of management, with its attendant diffusion and destruction of line accountability. His leadership has brought about a new discipline and new accountability. Management authority has been returned to the Service Secretaries and they have been held accountable for achieving real reform in the development and procurement process. The Committee should take special note of the five fundamental changes made in the management of the Department of the Navy:

- First, we have sought true competition, not merely the appearance of competition through source selection followed by decades of monopoly production. We have pursued a policy of establishing second sources in every appropriate program. We have raised the percentage of competition in our shipbuilding from 15.7 percent in 1980 to 84.3 percent in 1985. We have raised acquisition of all spare parts from only 15.7 percent competitive in 1981 to 28.8 percent in 1984, with a goal of 40 percent in FY 1985.

Two years ago we established at flag rank a Competition Advocate General reporting to the Assistant Secretary of the Navy and the Chief of Naval Material. He now has a network of some 300 Competition Advocates throughout the Navy's Acquisition Commands.

In FY-1984 we awarded 14.5 billion dollars competitively, or 37 percent of all Navy procurement dollars. That performance reflected a 54 percent increase over the total dollars we awarded competitively in FY-1982. Over 50 percent of all individual contract actions executed in FY-1984 were competitive.

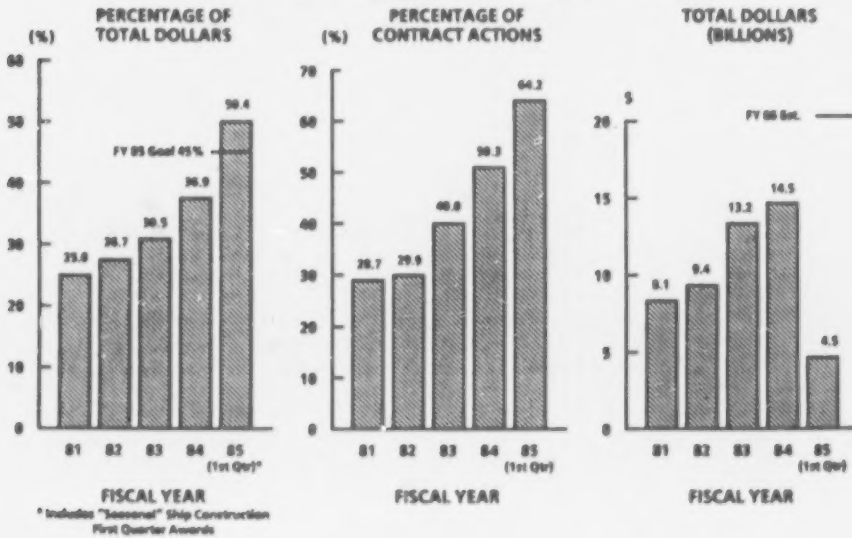
Contracts savings from this new competitive approach in shipbuilding have been enormous. The savings from just the first two years of competition in the previously sole-sourced AEGIS cruiser program have now reached 382 million dollars below the budget projections. In November 1984 we awarded six ship contracts under this competitive procurement system on fixed price contracts. This brought in the ten ships involved for 243 million dollars less than budgeted. Competition in FY-1984 and FY-1985 for the SSN-688 class submarines resulted in savings of 184 million dollars from the President's budget requests. The list goes on and on. As a result of these competitive savings, we were able to fund the entire battleship MISSOURI at 430 million dollars from contract savings and, in addition, were able to contribute 640 million dollars from our shipbuilding savings to assist in funding the MX program.

In a major initiative this year we have selected Pratt & Whitney to compete annually with General Electric as the second source for the superb Navy-developed F-404 fighter engine.

- Second, gold plating control. Without question, competition and fixed price contracts are the formula for reducing costs in major procurement. But they can also be a formula for disaster, litigation, and claims, if a military service does not discipline its tendency to gold plate and to increase and change requirements during contract execution. Gold plating is now under firm control in the Department of the Navy. An Air Characteristics Improvement Board and a Ships Characteristics Improvement Board have now been established to control design and equipment changes in production aircraft and ships. This has proved to be a very effective obstacle to gold plating and will carry into force our "Block Upgrade" policy. Under this policy, necessary changes and modernizations in design are made only with new annual contracts and are priced and negotiated at that time rather than piecemeal in the middle of production runs. Very substantial savings have resulted from this procedure. No contract or engineering changes may be submitted for negotiation without the signature of the Commandant of the Marine Corps or the CNO, and the Secretary of the Navy.

- Third, program stability. You will note that the personnel readiness, shipbuilding, and aircraft procurement goals have not been changed as I present to you the sixth Reagan recovery budget. This stability is unprecedented in peacetime history, avoiding the ragged ups and mostly downs of previous five year plans with the terrible costs and efficiency penalties that

DEPARTMENT OF THE NAVY PROCUREMENT COMPETITION PERFORMANCE



such uncertainty brings. Most of our aircraft programs have remained at stable long-term levels, and the multi-year procurement initiatives that we have been able to achieve in the C-2A aircraft, NATO SEA SPARROW missile, MK-46 torpedo, and CH-53E helicopter programs are saving the taxpayers more than 400 million dollars compared to their annual purchase prices.

- Fourth, contract discipline, accountability, quality assurance. We have moved from a policy of treating cost-plus contracts as normal to treating them as being only acceptable as an absolute last resort for very high risk programs. Our policy now requires more equitable sharing between the government and its contractors, providing increased incentives for excellent performance and immediate contractor penalties for poor performance. We have put all of our aircraft procurement programs on firm-fixed-price type contracts and all of our ships on fixed-price incentive contracts with a 50/50 share line above and below the contract price. We have renegotiated contracts inherited from prior years to eliminate the more lenient terms on such programs as TOMAHAWK, TRIDENT, and the SSN-688 submarine. We now provide our contractors with the opportunity to make more profit than heretofore allowable by achieving performance that nets the taxpayer a substantially lower price. The corollary is that we require the contractor to bear immediately the cost of poor performance. Industry has responded at first with reluctance and now mild enthusiasm. After years of very late deliveries,

cost overruns, and litigation and claims, all of our submarines are now on, or ahead of, schedule. The four most recent TRIDENT submarines were delivered to the Navy four to seven weeks early. The USS THEODORE ROOSEVELT (CVN-71) was launched last October nearly 18 months ahead of schedule and more than 100 million dollars under budget.

- Fifth, Research and Development reform. In a major effort to make dramatic increases in the productivity of our R&D dollars and in substantially shorten the time to concept-to-delivery, fundamental changes have been made in the management of our research and development. In 1981 we had more than 500 R&D programs. Today we have reduced that to 400, while increasing steadily the amount of funding placed in these programs. We have moved away from cost-plus contracts for R&D toward requiring the contractor to participate in risk sharing.

Beyond even this, we have pioneered a dramatic new concept in firm-fixed-price packaged development in aircraft, where appropriate. The first of these breakthrough-initiatives were the jointly-negotiated fixed-price contracts for the complete redesign of the F-14D and the A-6F aircraft upgrade programs. Both of these aircraft will be entirely reequipped with new engines, new avionics, new survivability features, new cockpits, and new radars, for a combined total R&D cost on a firm-fixed-price contract totaling less than half of the cost that it took to develop the F/A-18. The third example of this approach was the contract signed in 1984 with McDonnell Douglas and British Aerospace on a firm-fixed-price package of 438 million dollars for the complete development of the T-45A Navy carrier jet trainer. This contract was brought in at about half of the budget estimate of 810 million dollars.

Emphasis in our Research and Development programs will continue to concentrate on achieving levels of high technology as a fundamental tool of American defense policy. We can never hope to match the numerical superiority of a totalitarian adversary such as the Soviet Union, but we can indeed maintain technological superiority to counter its advantage in numbers. The trendy arguments that cheaper and smaller are better are simply false. They have been invalidated time and time again in the Gulf of Sidra, the Bekaa Valley, and the Falklands. The result we are achieving now with the F/A-18 requiring less than half the maintenance manhours per flight hour of the aircraft that it replaces has enabled us to reduce our manpower requirements by some 50 personnel per squadron.

Similarly the TICONDEROGA, the first AEGIS cruiser, has completed its first deployment manned by only 300 enlisted men and 26 officers, roughly a third of the complement needed for the CG-10 class that it replaces.

As previously noted, naval aviation has just completed its fourth straight safest year in history. The current generation of high tech naval aircraft such as the F/A-18, F-14, and A-6E now have a safety record more than twenty times better than the so-called low-cost fighters of thirty years ago.

RESULTS

The results of these management initiatives are quite dramatic. A few highlights are listed below:

- The disputes, litigation, claims, cost overruns, and schedule delays that characterized naval shipbuilding in the 70's have been eliminated. Over the last three years (FY-1982-4), 71 ships have been delivered to the Navy of which 27 were ahead of schedule, 32 on schedule, and only 12 behind schedule. The net of

all three years is 31 months ahead of schedule for all ships. After years of bitterness and massive cost overruns and claims in our submarine program, nearly all submarines have been delivered on or ahead of their contract delivery dates for the last three years and on or under budget. For the fourth straight year there has not been a single new construction contract shipbuilding claim outstanding against the Navy.

- Aircraft Carriers. The contract for THEODORE ROOSEVELT (CVN-71) was modified to include an incentive clause for delivery of up to 14 months in advance of the contract delivery date. The ship was launched in October of 1983 18 months ahead of the original schedule and is currently more than 100 million dollars below budget. The FY-1983 multi-ship contract for ABRAHAM LINCOLN (CVN-72) and GEORGE WASHINGTON (CVN-73) included an acceleration of 44 months for delivery of the ships, and more than 1 billion dollars in cost savings have now been verified. Both ships are under construction.

- AEGIS Cruisers. Bath Iron Works was selected as a second source to compete with Litton for procurement of AEGIS cruisers. Contracts were signed in December of 1983 for the first three cruisers to be competitively awarded - two to Litton, and one to Bath. The contracts resulted in a net constant dollar savings of more than 100 million dollars compared to the previous year's sole source award of 3 ships to Litton. In November 1984, the second year of competition resulted in Bath winning two ships and Litton one, with a net constant dollar savings of 97.7 million dollars compared to the 1984 award.

- Battleships. NEW JERSEY was recommissioned in December of 1982 ahead of schedule and under budget. IOWA was delivered well ahead of schedule and under budget in April of 1984 and is currently deployed in the Caribbean. MISSOURI was fully funded from contract savings last year and is currently ahead of its reactivation schedule in the Long Beach Naval Shipyard. Planning and preparation is currently going forward for the fourth and final reactivation, of WISCONSIN, with long-lead funding contained in this year's budget request.

- Build/Convert and Charter Programs. Thirteen T-AKX maritime prepositioning ships (MPS) and five T-5 tankers have been contracted for and are under conversion and construction. The first four MPS ships were delivered during the last six months and two of those four have already participated in logistics exercises. These ships provide a dramatic new capability to preposition the equipment and supplies to support three Marine Amphibious Brigades in areas of potential crisis around the world. The first six of the MPS ships will be completed two months ahead of original schedule and under budget.

- Five years ago 15.7 percent of our shipbuilding program was awarded competitively and 84.3 percent sole source. In the FY-1985 shipbuilding program 84.3 percent of the ships will be awarded competitively and only 15.7 percent sole source.

- For the past two years, all our airframe contracts except the multi-year C-2 contract have been negotiated on a firm-fixed-price basis. The FY-1983 contracts resulted in a savings of 10.3 percent from our original budget estimates. Additionally, those FY-1984 frame contracts that have been negotiated have resulted in a 3.4 percent reduction in recurring flyaway costs.

- In the major Reagan Administration effort to reinvigorate the maritime industry and the merchant mariner profession, a total of 17 more ships, including cable ships, missile range ships, and fleet tugs, will be offered for contract manning in the current year. This will raise to 51 the total of naval ships offered for contract manning added by this Administration.

- The Navy Department (from FY-1982 - FY-1984) increased by 34 percent in dollar value its awards to small businesses, including women-owned and minority-owned concerns. These contracts to small business totaled 6.1 billion dollars in FY-1984, reflecting a new commitment to bring the benefits of competition and the small business industrial base to Navy procurement.

- The new independent cost estimating organization has been established and has been functioning effectively under the Comptroller of the Navy to independently advise the CNO, Chief of Naval Material, and Navy Secretariat on program cost estimates.

- A year ago I reported to the committee the establishment of a new Navy Acquisition Reporting System. It has now been functioning for a full year and has been a dramatic success. It involves a new, simple, and straightforward acquisition reporting system for the top 60 programs. It requires quarterly reports on any changes of estimated cost for R&D or production or changes in schedule for each of those 60 programs and provides early warning of performance difficulties. While this system is primarily meant for senior Navy management, its effectiveness makes it a prime candidate for eventual replacement of current the Selective Acquisition Reporting System.

- Provision of guidance to promotion boards has been modified to increase emphasis on the performance of officers in acquisition management billets.

- Revision of assignment policy for Program Managers and Industrial Facilities Commands. The minimum tour length for officers serving in these important acquisition billets has been lengthened to four years. Arrival and departure from these assignments now is planned to coincide with major Department of the Navy Systems Acquisition Review Council (DNSARC) milestones and/or program starts or completions.

- Increases in manning of Navy Plant Representative Offices. Substantial increases were begun in calendar year 1983, and have continued since, to raise the numbers of naval personnel managing contracts in contractor plants.

- Establishment of BOSS. The Department of the Navy has instituted a spare parts procurement program called "Buy Our Spares Smart" (BOSS). It is particularly frustrating to us to find that the abuses and overcharging uncovered by the Navy itself over the past two years -- items for which we recovered monies -- are being used by headline-hunting critics seeking to discredit the very effort itself. Working with suppliers and parts contractors, we have made great progress in locating abuses, receiving refunds, challenging sole-source relationships, locating alternative sources, and reducing barriers to competition for spare parts by identifying and eliminating proprietary-data requirements. There are more than 2.3 million inventory items in the Navy's spare parts supply system, and we are methodically reexamining the 1 million under Navy control, over 100,000 of them each year.

DEPARTMENT OF THE NAVY BUDGET FY-1986

THE SOURCE OF THE NAVY/MARINE CORPS BUDGET

Commentators with little knowledge of defense policy have criticized the service budget requests as exercises in simply asking for more programs that have a momentum of their own. Nothing could be further from the truth. As described above, the

preparation of the 1986 budget began with the foundation of national strategy and the maritime objectives assigned to the Navy and Marine Corps. From maritime strategy came the force structure planning requirement. Throughout the year, the strategy and the force levels have been refined and tested in multi-national exercises, simulations and wargaming. As noted earlier, the most important input to the preparation of this budget are the semi-annual assessments of the operational and theater commanders in their net assessments and recommendations for funding priorities. The lessons learned from real world operations and conflicts such as the Falklands and the Middle East are applied and often further modify the budget planning. From the start of this FY-1986 programming process, in September 1983, the application of common sense in placing priority on the "strategy stoppers" has been applied throughout. Then after exhaustive scrubbing and debate within the Department of Defense and with other agencies of the Government the Department of the Navy budget request has been completed.

PERSONNEL READINESS

The FY-1986 budget continues to place personnel readiness at the top of spending priorities as in the previous four budgets. Nothing is more important than our personnel. The tremendous turn-around in morale and personnel quality and performance has proved to the skeptics that, for the Navy and Marine Corps, the All Volunteer Force produces a better and readier force for the long term than a peacetime draft. This success, however, depends on the maintenance of adequate compensation and adequate quality of life. Nothing is more important than maintaining budgetary support for those priorities. Our budget request contains the following priority programs:

- A 3 percent pay increase on July 1, 1985, which would be the equivalent of a 4 percent overall increase started at a later date. Together with the 4 percent increase in January 1985 this should stay close to matching the inflation rate.

- Sea Duty Enhancement Programs. Naval service can be arduous, dangerous and dramatically ill-paid when compared to civilian careers requiring comparable skills. We have been able to bring this into better balance through our sea pay, selected reenlistment bonus, nuclear officer incentive pay, submarine pay, and special pays. These are continued and adjusted upward in the current budget. We have new initiatives of particular interest in correcting the injustice currently imposed in reimbursement of travel expenses, by increasing certain reimbursements and weight allowances.

- Increases in End Strength. We will continue to add more than 20 ships per year to the fleet from now until 1989. We must have increased end strength to man these ships and increased numbers of aircraft and support units. Because of Congressionally imposed reductions in the last three years, our end strength increase has not matched requirements of the ships that have been added. The shortfall has been imposed on the shore establishment and that expedient can no longer absorb further cuts. Our active force end strength must be raised in FY-1986 by 15,000 for the Navy and by 1,200 for the Marine Corps. Reserve force structure also needs expansion. We are requesting an increase of 10,500 reserve billets for the Navy and 1,262 for the Marine Corps.

- Aviation Officer Career Pay. One of the most dramatically successful and cost effective compensation initiatives in Navy history has been the AOCP program. Retention of naval aviators has more than doubled in the last four years of

COMMUNITY		PROJECTED 2ND TOUR INVENTORY	PROJECTED 2ND TOUR REQUIREMENT	PROJECTED DIFFERENCE
VAM/VAQ (MED. ATTACK/ECM)	NFO PILOT	163 90	309 209	-146 -119
VAL (LT. ATTACK)	PILOT	166	351	-185
VF (FIGHTER)	NFO PILOT	165 139	317 317	-152 -178
VS (CARRIER ASW)	NFO PILOT	125 80	217 150	- 92 - 70
HELO	PILOT	558	1194	-636
VAW (CARRIER ASW)	NFO PILOT	103 57	150 108	- 47 - 51
VRC (CARRIER LOG)	PILOT	35	150	-115
VO (SCM/COMB)	NFO PILOT	114 87	176 142	- 61 - 76
VP (PATROL)	NFO PILOT	369 287	317 401	+ 52 - 14
FORCE SUPPORT	PILOT	40	50	- 10

paying AACP. Pilots and Naval Flight Officers are currently being retained at the rate of 56 percent and 81 percent respectively. Since the inception of the program, 708 additional aviators have remained on active duty as a direct result of AACP. The resulting cost savings were 578.7 million dollars, which would have otherwise been needed to train their replacements. In addition, the much higher experience level that this bonus has brought us in naval aviation has resulted in the fourth straight record year in naval aviation safety. Since 1981, 126 aircraft have been saved compared to what would have been lost due to pilot error at the accident rate prevailing before the inception of AACP. This has resulted in a dollar savings of approximately 685 million dollars.

In accordance with the Congressional guidance in the 1985 bill, we have modified the application of the bonus to focus it on those aviation communities where shortages persist. These are principally the sea-going communities, where family separation remains the single strongest factor leading to resignations. The latest tabulation of shortages, by community, appears below:

COMMUNITY		PROJECTED 2ND TOUR INVENTORY	PROJECTED 2ND TOUR REQUIREMENT	PROJECTED DIFFERENCE
VAM/VAQ (MED. ATTACK/ECM)	NFO Pilot	163 90	309 209	-146 -119
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VAW (CARRIER ASW)	NFO Pilot	103 57	150 108	- 47 - 51
VRC	Pilot	35	150	-115

(CARRIER TRANS)

VQ	NFO	114	175	- 61
(ECM/COMM)	Pilot	67	142	- 75
VP	NFO	339	317	+ 82
(PATROL)	Pilot	387	401	- 14
FORCE	Pilot	40	50	- 10
SUPPORT				

In each successive year of this bonus, Congress has imposed restrictions and reductions. We have seen a significant drop in the pulling power of this bonus during the past months.

The smaller numbers and the shorter eligibility have reduced the attractiveness of the bonus to an appreciable degree. We have seen a sudden spurt in resignations of pilots, and we believe the time to deal with this problem is right now before it reverses the positive trend of recent years. We will be proposing modifications to the committee which should increase the attractiveness of the AOCF bonus and eliminate the current loss of entitlement to hazardous duty incentive pay and aviation career incentive pay.

- Nuclear Officer Incentive Pay. Retention of our nuclear trained officers has improved by 9 percent over the past four years. Nevertheless, 13 and 24 percent shortfalls of nuclear trained submarine and surface warfare officers remain. The accession bonuses paid to officers entering the program have met with great success. This year we achieved 92 percent of our accession goal. The provision of these pay incentives for nuclear trained officers must be continued if we are to achieve our goals of manning the nuclear powered ships with adequate numbers of and trained experienced officers.

- Recruiting and Advertising. As the target population for recruiting grows smaller every year and the economy grows stronger recruiting becomes increasingly more challenging. We have found disturbing survey evidence that youth awareness of Navy programs is declining steadily. Navy advertising acts as a significant tool for recruiting and we are asking for increased funding for both recruiting and advertising.

MATERIAL READINESS

Next to personnel, material readiness has received the highest funding priority of all Navy accounts during the last four years. As we move steadily to our 600 ship Navy in 1989, we have maintained funding for material readiness proportionate to the growth in ships and aircraft. The FY-1986 budget should continue to support that proportion and the steady improvement in overall readiness outlined earlier. We are requesting funding, for instance, for the ships maintenance program to provide for the overhaul of 35 active and 6 reserve ships. This is being done at considerably lower cost because of our shifting of overhaul contracting to a more competitive process based on fixed-price bids. It reflects also the carefully engineered extension of the operating periods between overhauls for ships and aircraft, and overhauling selected systems during shorter regular maintenance availabilities.

- Decentralization and Increased Accountability for Depot Level Repairable Components. In a major innovation in the management of maintenance funding, we have instituted a decentralization of the management of Depot Level Repairable (DLR)

components to the ship and the aircraft squadron level. We are testing financing procurement and repair of DLRs through the Navy Stock Fund starting in April 1985. This initiative establishes a buyer/seller relationship between the stock fund and its customers who in turn are held accountable for their expenditures. In our experience, this brings a much more frugal approach to ordering, based on the truly needy, and an incentive to repair at the lowest authorized level and not waste repairable assets which can be turned in for credit.

The FY-1986 funding for flying hours represents a 5.6 percent increase over the FY-1985 level, which will provide a level of 25 flying hours per month per air crew.

Ship steaming days are funded at the same rate as FY-1985, adjusted upward for the larger size of the fleet. This figure is based on the required steaming days to maintain readiness and training.

Aviation Support: Planned procurement of Aviation Spare Parts (AVCAL), Aircraft Armament Equipment (AAE), Aviation Weapon Support Equipment (AWSE), and Ground Support Equipment (GSE) must be increased and is included in this budget to allow simultaneous deployment of all deployable aircraft carriers with full capability by 1987.

AMMUNITION

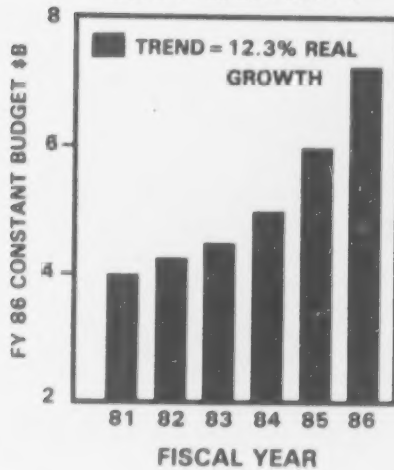
During the unilateral disarmament of the 70's, ammunition, missile, and torpedo stocks declined to such an extent that four years ago we could not load out the fleet even once. Funding for ammunition has doubled over the last three years and has doubled again in the FY-1986 and FY-1987 programs. The output to the fleet, however, will be much greater than a doubling of delivery rates because we have applied the management reforms outlined earlier. We intend, for example, to have second sources for virtually all requested surface-to-air and air-to-air missiles, ensuring that we will be able to sustain our steady buildup toward inventory requirements at the lowest possible cost. Full funding of these requests is essential if we are to maintain the efficiency and cost reductions we are now achieving through competition and production rates at optimum levels for lowest cost. At the currently funded rates we expect to achieve our full objective for wartime sustainability in these weapons systems by 1989.

Navy and Marine Corps Aircraft Procurement and Modernization Programs

The FY 1986 budget request contains 322 new Navy and Marine aircraft. This will build to an active inventory of 5,700 aircraft, with roughly a third of these operated by the Marine Corps. The 14th active air wing is planned for FY 1987 and the two reserve air wings are currently modernizing as part of our horizontal integration.

Tactical Aircraft (TACAIR) Modernization—The FY 1986 budget proceeds with one of the most dramatic changes in TACAIR modernization policy. To get the maximum value for the taxpayer we have adopted a product improvement approach based on firm-fixed-price development contracting. The major objective of this approach is to establish hardware and software commonality in our four major tactical aircraft programs, with the objective of obtaining 90 percent commonality in avionics and electronics for the AV-8B, F/A-18, A-6, and F-14. This will save at least \$4 billion over the remainder of this decade.

SUSTAINABILITY



COMMAND, CONTROL, AND COMMUNICATIONS C3

Major investments in improving C³ in the naval forces is included in this budget. The long-deferred development of anti-jam communications is a major initiative in this budget. In addition, funding is included for the E-6A TACAMO replacement aircraft.

SHIPBUILDING

The FY-1986 budget requests 23 new-construction ships, and 5 conversions and reactivations. In the FY-1986 budget we are now dealing largely with the modernization and maintenance of the 600 ship navy in the 90's, rather than force-building to that number, achieved during the last four years.

AIRCRAFT CARRIERS

There are no aircraft carriers in the FY-1986 budget or the five year projection, and no new construction carriers are needed until the early 90's. THEODORE ROOSEVELT (CVN-71) was launched in October 1984 and will become the fourteenth deployable carrier in 1986. ABRAHAM LINCOLN (CVN-72) will join the fleet in 1989 as the fifteenth deployable carrier, and GEORGE WASHINGTON (CVN-73) will replace CORAL SEA in 1991.

BATTLESHIPS

The FY-1986 budget contains long-lead funding for the reactivation of the fourth and final battleship, the USS WISCONSIN.

TRIDENT SUBMARINES

The FY-1986 budget contains funding for the thirteenth TRIDENT, which will have a D-5 TRIDENT II missile configuration.

ATTACK SUBMARINES

The FY-1986 budget contains funding for four Los Angeles-Class Nuclear Attack Submarines. It is essential, now that we continue to have both Electric Boat and Newport News producing Los Angeles class submarines with great efficiency, that we take advantage of their capacity to produce the numbers required at substantial savings. We estimate that the difference between contracting for four 688's competitively and contracting for three competitively means a reduction in price of 40 million dollars for each of the four submarines.

AEGIS CRUISERS

The FY 1986 budget contains funding for three Aegis cruisers, the 17th, 18th and 19th of the class. These ships will be competed for on a fixed-price basis for the third straight year between Bath Iron Works and Litton.

DESTROYERS

The FY-1986 budget contains long-lead funding for the ARLEIGH BURKE-Class Destroyers. The lead ship was appropriated last year and we expect to begin competitive series production in two shipyards in FY-1987 and bring in a third yard in FY-1988. These ships are not force-builders, but will replace existing DDG-2 and DDG-37-class destroyers on a one-for-one basis.

AMPHIBIOUS SHIPS AND LANDING CRAFT

Four years ago we embarked on a program to expand our Marine Amphibious Lift capability to add assault lift for one Marine Amphibious Brigade. That program is progressing very nicely. All of these ships will incorporate design features to operate the new generation of Marine Corps equipment, such as the CH-53E, the V-22 OSPREY (formerly the JVX), the AV-8B Harrier, the LCAC, and the complete new suite of armor, artillery, and infantry equipment now entering the Marine Corps inventory.

LSD-41

The FY-1986 budget contains two LSD-41 WHIDBEY ISLAND class ships, the seventh and eighth of the class. These will be awarded on a fixed-price basis.

LHD-1

The FY-1986 budget contains the request for the first ship of a three-ship multi-year procurement of the new WASP-class convertible amphibious V-STOL carrier. Using the lessons learned from the achievements of the multi-ship carrier procurement of 1983, we project savings of more than 820 Million dollars in this three ship procurement.

LCAC

The FY-1986 budget requests twelve more of the Landing Craft Air Cushion (LCAC) now being produced by Bell Aerospace Textron. A second-source contractor will be selected this Spring. Competitive production by two shipbuilders begins in FY-1986. This is the most revolutionary enhancement of landing craft in Marine history.

MINE COUNTERMEASURE SHIPS

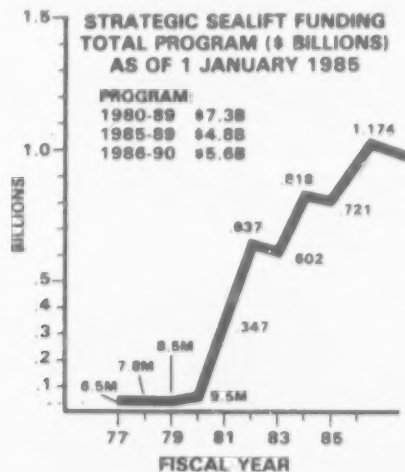
The reconstitution of our mine warfare capability is now in full swing. For FY-1986 we are requesting authorization and funding for four MCM-1 AVENGER-class mine countermeasure ships and four small, less expensive, MSH-1 coastal mine hunters. Bell Aerospace Textron of New Orleans won the competition for the production of this new class of ship based on the revolutionary surface effect design. The reserve-manned craft of opportunity (COOP) program for FY-1986 converts four fishing vessels and two former Naval Academy training craft for use in designated Atlantic and Gulf ports.

SUPPORT SHIPS

The FY-1986 budget contains funding for two more oilers (T-AO) and two more Ocean Surveillance Ships (T-AGOS) vessels. These four ships will be awarded through fixed-price competition.

SEA LIFT AND MARITIME PREPOSITIONING

Our budgets for the last four years have included significantly more money for strategic sea lift than all previous budgets going back to World War II put together. The FY-1986 budget continues that momentum with funding requested for the conversion of three more auxiliary crane ships (T-ACS) and additional flat racks and sea sheds. We have now had such success with our program to grow the Ready Reserve Fleet from 32 to 77 ships, having recently procured 11 modern RO-RO and break-bulk ships, sufficient to lift an entire Army armored division, for 83 million dollars, that we are expanding our objective to achieve 100 dry-cargo ships, plus additional bulk oil carriers.



NAVY AND MARINE CORPS AIRCRAFT PROCUREMENT AND MODERNIZATION PROGRAMS

The FY-1986 budget request contains 322 new Navy and Marine aircraft. This will build to an active inventory of 5700 aircraft, with roughly a third of these operated by the Marine Corps. The fourteenth active air wing is planned for FY-1987 and the two reserve air wings are currently modernizing as part of our horizontal integration.

TACTICAL AIRCRAFT MODERNIZATION

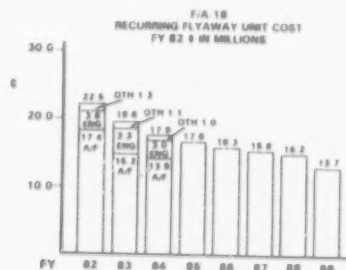
The FY-1986 budget proceeds with one of the most dramatic changes in TACAIR modernization policy. To get the maximum value for the taxpayer we have adopted a product improvement approach based on firm-fixed-price development contracting. The major objective of this approach is to establish hardware and software commonality in our four major tactical aircraft programs, with the objective of obtaining 90 percent commonality in avionics and electronics for the AV-8B, F/A-18, A-6 and F-14. This will save at least 4 Billion dollars over the remainder of this decade.

F-14 TOMCAT FIGHTERS

We have been able to maintain stability in the F-14A production rate that, along with discipline management, has brought about actual cost reductions in the airplanes. Unfortunately, the imposition of budget cuts on the President's request of last year has forced the Navy to reduce its requests from 24 F-14's to 18 F-14's and this will result in a price increase because of the lower rate of production. Our funding request includes funds to shift production aircraft from the TF-30 engine to the F-110 engine selected competitively by the Air Force. In addition, funding is included to execute the remarkable firm-fixed-price contract signed last year for the full package development and pilot production of the F-14D. This airplane will include entirely new engines, avionics, survivability features and radar upgrades. First production of the F-14D is planned for FY-1988.

F/A-18 HORNET STRIKE FIGHTER

For the fourth straight year we are requesting 84 F/A-18 aircraft. Because of the success of competing this airplane against the F-14 and the A-6E and because of very good performance by the contractors, we have brought the price of the F/A-18 down significantly every year. Its first deployment aboard CONSTELLATION is now underway and it is still breaking all records for reliability and maintainability. The FY-1986 budget includes funding for the development of an austere all-weather two seat version of the F/A-18A.



A-6 INTRUDER ALL-WEATHER ATTACK

The A-6E continues to prove that it is the best all-weather precision bomber in the world. Based on the inputs of the joint and fleet CinCs, we have had to increase the requirement for the numbers of A-6E's on carrier air wings. As a result, we have a significant current shortfall of A-6 aircraft which will grow worse in the years ahead. This problem has been exacerbated by our recent discovery that fatigue life on the A-6E wing will not exceed the contract specification. While all A-6E's are meeting or exceeding to some extent the design specification for wing life, it had been hoped that wing life could be extended as much as 100 percent. That is not possible. We are therefore entering into a competition for the design, production, and installation of a wing for all A-6's designed to last the entire duration of the service life of the aircraft.

Funding is included in this year's budget for the continuation of the firm-fixed-price contract signed last year for the development of a completely modernized A-6F. This aircraft will incorporate the F-404 engines, avionics, and survivability features of the F/A-18 and will include a new state of the art dual-mode radar. First production of the A-6F begins in FY-1988.

AV-8B

The AV-8B has successfully completed its Phase I OPEVAL and we have now signed our second firm-fixed-price contract 8 percent below budget estimates. The FY-1986 budget includes funding for 46 aircraft.

CH-53E

Funding is requested for 14 CH-53E heavy lift helicopters to begin the first year of a 4 year multi-year procurement that will save 102.9 million dollars. Introduction of this aircraft has been highly successful.

SH-60

The SH-60 LAMPS III helicopter is now in full production. We have executed a firm-fixed-price contract for the FY-1985 aircraft at 15.7 percent below the budget. The FY-1986 budget contains funding for 18 aircraft.

SH-2F LAMPS I HELICOPTER

The SH-2F LAMPS I Helicopter has been a most successful example of sound business management in reopening a production line that has been closed for 15 years. The FY-1985 contract for six LAMPS will be on a firm-fixed-price basis at less than budget. This excellent light-weight helicopter provides extremely valuable capabilities to those ships that will not be modified to operate the LAMPS III Helicopters, primarily the FF-1052 class and FFG-7 class, and will modernize of the Naval Reserve.

AH-1T

The OPEVAL of the AH-1T, reengined with the T-700 engine was very successful and it is our intention to incorporate this engine into the FY-1985 production aircraft. The FY-1986 program contains funding for the final 22 aircraft of a 44-aircraft program.

CV HELICOPTER

The FY-1986 budget contains funding to complete development of a helicopter to replace the carrier-based SH-3. This program embodies both CV search and rescue requirements and the dipping sonar anti-submarine warfare requirement which is becoming more important in dealing with the Soviet submarine threat. This aircraft will be an austere modification of the existing production SH-60 aircraft.

V-22 OSPREY

The FY-1986 budget contains funding for the continued development of this revolutionary aircraft, formerly known as J VX, now shifted entirely to the Department of the Navy budget for development and production for all the services. One of the most innovative and exciting new aircraft developments programs in the world, the program is on schedule and on cost. It will replace the aging CH-46E's and CH-53A/D's in the Navy and Marine Corps inventory. In addition, modification of this aircraft will be applied to many other missions in all of the services. We are including from the inception of this program the establishment of two production lines to compete annual production buys in the future.

ADVERSARY AIRCRAFT

The Navy takes delivery of its first no-cost lease of F-21 Kfir aircraft from Israel in March. This interim aircraft will provide excellent adversary training until and beyond the delivery of the F-16N aircraft to Navy adversary squadrons. The F-16 was selected in December of 1984 in a fixed-price competition and we have signed a contract for 14 aircraft based on prior year funding. The FY-1986 budget includes funding for 12 aircraft.

OTHER AIRCRAFT

The FY-1986 budget includes funding for twelve utility aircraft, 8 C-2's, and 38 T-34C trainer aircraft. The C-2 has been an extremely successful multi-year contract now yielding more than 100 million dollars in cost savings.

MARINE CORPS PROCUREMENT PROGRAMSMARITIME PREPOSITIONING SHIP (MPS) BRIGADE EQUIPMENT

Funding is requested in FY-1986 for the third MPS Brigade and to continue equipment maintenance, modernization, and exercise funding for the first and second MPS Brigade. The second MPS squadron will replace the near-term prepositioning force (NTPF) ships during FY-1986, and funding is requested to effect the transfer of equipment and supplies.

NORWAY PREPOSITIONING

The Marine Corps program for prepositioning selected equipment and supplies in Norway allows a Marine Amphibious Brigade (MAB) to move from the United States to the critical northern flank of NATO in days, with a minimum requirement for strategic lift.

M-198 HOWITZER AND SELF PROPELLED ARTILLERY

The FY-1986 budget contains continued funding for the M-198 to complete replacement of our aging towed artillery pieces with a weapon of significantly greater range, reliability, maintainability, and lethality. Thirty-five are requested in FY-1986.

INFANTRY WEAPONS AND OTHER HIGH PRIORITY PROGRAMS

FY-1986 budget contains continued funding for the fielding of infantry weapons to Marine Corps units, especially the new M-16A2 (the best service rifle in the world), the M-249 squad automatic weapon (SAW), the lightweight M-60E3 machine gun, and the shoulder launched multi-purpose assault weapon (SMAW), an 83 millimeter rocket launcher.

ASSAULT VEHICLE LAUNCHED BRIDGE

This program will eliminate critical shortfalls in our assault river crossing capability. Sixteen are requested in FY-1986.

OCEANOGRAPHY PROGRAMS

Knowledge of the ocean environment is critical to tactical and strategic force employment. We are now at the threshold of a new era which has the potential for offering explosive growth in our understanding of the ocean. We are taking advantage of this technological opportunity by:

- (1) reinvigorating the oceanography designator as an elite corps,
- (2) investing in more capable equipment such as the Navy Remote Ocean Sensing System (NROSS) and in oceanographic research vessels,
- (3) establishing an Institute for Naval Oceanography to provide the means to integrate newly emerging data from satellite and other varied sources so that it can be readily disseminated to our fleet, and
- (4) increasing our educational commitment within the military and civilian oceanography community.

We have increased substantially the number of graduate fellowships in ocean sciences for naval personnel, increased the number of academic chairs in oceanography, and strengthened the ocean sciences technology base. Our FY-1986 commitment in the technology base has been increased by approximately 10 percent to 110 Million dollars. The Navy Remote Ocean Sensing System will allow us to acquire global ocean data for operational and research use by both the military and civilian sectors. Our revitalization of ocean research vessels started in FY-1985 with the procurement of two new deep-survey platforms. Follow-on shipbuilding efforts are planned beginning in FY-1987. The Institute of Naval Oceanography will use a large-scale computer to closely link universities, research institutions, and the Navy in assimilation and use of ocean data from all sources.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION PROGRAMS

The FY-1986 request for RDT&E represents 10.8 percent of the Navy's total request. It represents the accomplishment of the pledge made four years ago to streamline and reduce the number of R&D programs and increase the funding where there is high payoff.

We have reduced from well over 500 RDT&E programs in FY-1981 to 400 in the FY-1986 budget. A significant proportion of the entire budget is devoted to programs currently transitioning to full scale development, including the TRIDENT II D-5 missile, the F-14D and A-6F, E-2C and EA-6A and B aircraft upgrade programs. Also of significance are the continuation of the Submarine Advance Combat System (SUBACS), the MK-50 Advanced Lightweight Torpedo, the MK-48 ADCAP Torpedo, and the Joint Tactical Information Distribution System (JTIDS).

SSN-21

Continued R&D funds are required for this extremely important new submarine designed to counter Soviet threats in the full range of expected missions well into the twenty-first century. SSN-21 will be quieter, faster, deeper diving, more heavily armed, and more capable of under-ice operations than today's attack submarines. Authorization for the first ship is planned for 1989.

ADVANCED TACTICAL AIRCRAFT (ATA)

The FY-1986 budget includes research and development funding for this follow-on aircraft, intended to replace the A-6 and other aircraft in the late 90's. To ensure maximum commonality with developments in Air Force and Army programs, we have set up a multi-service steering group.

SPACE

With three-quarters of the earth's surface covered by the seas, the Navy has always had a priority interest in the maritime dimension of space. Naval operations are increasingly dependent on space systems strategically, tactically, and in peacetime. Nearly 85 percent of all operational satellite system outputs provided to the Armed Forces are used by the Navy. The coordination of military service and civilian agency activities in space has been remarkably smooth and successful. The establishment of the Navy Space Command in Dahlgren, Virginia, in 1983, has greatly improved the management focus of Navy efforts in space.

NAVY AND MARINE CORPS RESERVE

Four years ago the Department of the Navy undertook a major reorganization of reserve components to move from a vertical to a horizontal relationship with the active forces. That means essentially that the Reserves must provide immediate augmentation to the active force in time of emergency across the entire spectrum of warfare. It means also that, in peacetime, we rely on Selected Reserves to provide real-time fleet support across their mission areas. To execute this common-sense policy, the Reserves must have equipment compatible with the active forces. For instance, instead of providing the Reserves only such equipment as becomes obsolete and is removed from the active force, there must be a spectrum of new and old equipment reflected in the Reserves parallel and in the same proportion as in the active force. We have taken fundamental steps to bring this about.

- Modern FF-1052 and FFG-7 Frigates have been transferred to the Naval Reserve Force with a total program of 26 frigates planned by 1990.

- The first reserve squadron has now transitioned to the F/A-18 and another squadron to the F-14A.

- Modern A-7E, E-2C, SH-2F, and HH-60 aircraft have been or are being transferred or acquired for reserve units this year with other fleet aircraft to follow during the current five-year plan.

- Squadron augmentation flying units have been established and have been operating successfully with each active duty air wing, providing current-trained aviators and maintenance personnel for immediate augmentation to active duty squadrons.

The Naval Reserve contains several components which only exist in the Reserves: 100 percent of the Navy's U.S. based logistic airlift squadrons; 100 percent of light attack helicopter squadrons; 100 percent of our combat helicopter search and rescue capability; 100 percent of naval mobile inshore/undersea warfare units - "the brown water Navy" structured for combat on inland waterways. Upon mobilization the Reserves provide 99 percent of naval control of shipping organization manning for merchant ship mobilization and convoy formation for overseas operations; 86 percent of ocean-going mine sweepers; 86 percent of cargo handling battalions vital to port management and loading operations in a combat theater; 85 percent of Military Sealift Command military personnel; 68 percent of Navy Mobile Construction Battalions, the famed SEABEES; 66 percent of special boat forces; 34 percent of Naval Intelligence personnel; 35 percent of maritime anti-submarine warfare patrol squadrons; 30 percent of medical support personnel; 22 percent of ASW Helicopter Squadrons needed for fleet and convoy anti-submarine defense efforts; and 14 percent of our tactical sea based aviation capabilities.

The Marine Corps relies heavily on a fully trained and capable reserve component to complement its active force. The Marine Corps division/wing team (the 4th Marine Division/Aircraft Wing Team) comprises one-fourth of our total Marine Corps combat structure and one-third of total Marine Corps manpower assets. The reserves provide 40 percent of Marine tanks; 33 percent of heavy artillery; 30 percent of the light attack aircraft; and 33 percent of the anti-aircraft missile capability. It is not often realized how fully integrated our Navy and Marine Corps Reserves are becoming in our active force structure and peacetime operations. Naval Reserve C-9 Transport aircraft made many trips in support of our Marines ashore in Beirut during 1983 and 1984 and provided direct support to our operations in Grenada during the same period.

As another example, the Ready Reserve provided 349 volunteers for three-week tours of duty aboard the battleship NEW JERSEY during its 11 month deployment, enabling most of the crew to rotate home for leave.

A most successful new initiative begun in 1983 was the Sea/Air Mariner Program that now provides 10,000 first term enlistments per year directly into the Naval Reserve. We are beginning a similar program this year for junior officer accessions directly into the Reserves in both the Navy and the Marine Corps.

CONCLUSION

The progress outlined above and the programs proposed for the future should be a source of much pride to this committee and to Congress as a whole. It is strong testimony to the proposition that Congress and the Executive Branch not only can work together, they can achieve dramatic results in a very short period of time. In four short years we have made a real change already in the global maritime balance. We have increased available ship days 40

percent for submarines and 20 percent for surface combatants. No longer do we have a 1 1/2 ocean Navy for a 3 ocean commitment; no longer do we have ships that cannot deploy on time for lack of trained sailors; no longer do we have a hemorrhage of talent from our career forces; no longer do we have an unending spiral of cost overruns and escalation; no longer does the world perceive the United States as declining a world power. The modest 7 percent average increase in the Navy budget for the last four years has paid enormous dividends and provided capabilities many times more than that increment.

The President, the Secretary of Defense, and the Department of the Navy have not wavered from the priorities and commitments made four years ago to achieve maritime superiority. We have every confidence that Congress will demonstrate the same constancy of purpose, rejecting the arguments of those who would ignore the lessons of the 70's. We simply cannot afford to start again down that road of no-growth budgets, pay freezes, and the destruction of competition, which brings us ultimately to the dead end of an impaired national security.

Today, we hear once again the popular but false wisdom that in a period of high interest rates and deficits, the defense budget simply must be cut. Sometimes this pernicious reasoning is even carried one step further and it is alleged that the buildup of America's military strength is actually weakening the United States' economy.

History itself is the best refutation to the argument that budget deficits necessitate a cut in defense expenditures. Today's economic problems do not even approach the era of the recent depression, when the British, French, and U.S. governments cut military expenditure to the bone in the name of fiscal prudence. The resulting lack of Western preparedness contributed in no small measure to World War II, the war Churchill called the most avoidable of all wars.

When the Axis powers were finally defeated in 1945, 60 million people had died, almost 300,000 of them Americans. The war consumed nearly 40 percent of the U.S. Gross National Product. If World War II were to be fought again, at 1985 prices, the price would exceed 4 trillion dollars.

Those who would argue that defense spending should be curtailed in times of deficit should ponder the cost of war itself, should deterrence fail for want of adequate preparedness. A significant portion of today's federal debt represents the unpaid bills, with interest, that we still owe on World War II. Our war debt has never been liquidated, only rolled over. Funded for the most part by 30 year 2 1/2 percent war bonds, the principal remains unamortized today at much higher interest rates. Strong national defense does not come cheaply, but as we learned four decades ago, it is far less expensive than the war which weakness invites.

Another specious rationale maintains that "the biggest deterrent to the Russians is a healthy economy in America." It is doubtful that the Politburo will defer plans to foster revolution and turmoil in Central America because the U.S. trade balance is improving or economic productivity is rising.

We are fortunate to have in the President and Secretary of Defense and in positions of responsibility in Congress, leaders who understand the truly incalculable cost of war in terms of human sorrow and suffering. They recognize that, above all others, national defense is the first and most vital of all government services. For if the people, through their government, cannot "provide for the common defense," we can provide for nothing else.

STATEMENT OF ADM. JAMES D. WATKINS

NAVY READINESS

Senator STEVENS. Admiral Watkins.

Admiral WATKINS. Thank you, Mr. Chairman, and members of the committee. I would like to add the following points to the Secretary's comments.

The Navy today, in my opinion, is more ready than at any time since the end of World War II. We are manned with better quality men and women than at any time that I have seen during my 36 years of commissioned service.

Every readiness indicator we have is up across the board, and we are well on the way to achieving the 600-ship Navy objectives at costs that are significantly under that which were initially budgeted, because of the kinds of competitive and other price cutting actions that the Secretary mentioned.

PERSONNEL

With regard to personnel, retention has doubled over the past 4 years, and we are meeting recruiting goals, as we have for the 5 previous years. Desertion rates and first-term attrition, serious problems of the 1970's, are half of what they were at the start of the decade. Drug abuse has been cut by more than three-quarters.

Even so, manpower requires constant attention because recruiting is beginning to be a bit more difficult. All indicators show that our delayed entry pool is slightly declining, and that unless we continue to provide the kinds of incentives that we need to draw from the private sector to maintain an All Volunteer Force, we can see a return to the shortchanging of our people of the 1970's. We need to be very careful about competitive treatment regarding salaries, benefits, and the like.

Retention appears to have peaked now. We have another problem, and it is probably not unique to the Navy, but is peculiar in the Navy in the sense that we have a sea-shore rotation problem with arduous sea assignments for our people.

MANNING NEEDS

The Navy has grown in size and capability, and the manning needs have not totally been met in this regard. Manpower increases have been held by the Congress solely to fill fleet ships, and squadrons. Corresponding support in the key shore activities has not been increased at a commensurate pace.

This approach creates longer sea tours for our people, more time away from families, more difficult working conditions, even when in homeport, due to shortages in shore manning. This trend does not permit adequate petty officer growth downstream to help ensure the needed career force.

In this regard, the Navy has 252,000 billets at sea, about 150,000 billets ashore, and another 100,000-plus is training and the pipeline to run the Navy. The average sea tour for critical skills is 13 years out of their first 20.

REENLISTMENT BONUSES

This is a heavy burden and requires the continued application of bonus dollars—the selective reenlistment bonus, aviation officer incentive pay, all of the special pays that we have asked the Congress for in the past few years and the Congress has supported. In fact, the Navy, as you may know, employs 60 percent of all of the DOD requested special pay dollars in order to compensate for the arduous nature of sea duty. This year, we are requesting an increase of 15,000 personnel to partially rectify the imbalance.

RESERVE FORCES

In addition, we are increasing emphasis on reserve forces, and asking for an average strength increase in that account of 10,500 to give us a more cost-effective force. This balanced approach to active and Reserve manpower, coupled with favorable action on our key bonus initiatives, will permit us to maintain this impressive record we have amassed over the past several years.

READINESS ACCOUNTS

This budget continues our emphasis on other readiness areas. Over the past 4 years, we have invested approximately 53 percent of Navy total obligation authority in readiness accounts, and there is no change this year. Mostly this accrues in MPN and O&M,N accounts. The results of this emphasis are evidence of tangible gains—29 percent more surface ships, 34 percent more submarines and, as the Secretary mentioned, 42 percent more aircraft squadrons are combat ready than at the start of 1980.

SUSTAINABILITY

Sustainability measures show corresponding increases. For example, though inventories lag spending by approximately 2 years due to manufacture and delivery times, stocks of missiles, torpedos, and other weapons have doubled in 4 years, and will double again by 1989. In fact, by 1989, for the first time, there will be no cross-decking of any type—weapons, yellow gear aboard carriers, or other kinds of spare parts support. Unfortunately, all of these practices are still now the case, from deficits of the past.

Our planning includes careful analysis of the contribution of our allies and sister services. It also considers the qualitative advantage we have over the Soviets. Although they outnumber us 3 to 1, we can, through careful attention to the modernization element of our budget submission, maintain our edge.

R&D, TEST AND EVALUATION

Approximately 19 percent of our request encompasses R&D, test and evaluation, and ship and aircraft improvement. For the past 5 years, we have experienced 80-percent real growth in modernization, which is still vital to continue the momentum if we are to remain capable in spite of the 3 to 1 quantitative disadvantage that I mentioned a moment ago.

The qualitative and quantitative increases since the beginning of this decade have been due in no small measure to some genuinely pioneering business practices which are the centerpieces of our programs to cut costs in the Navy through competition and fixed price contracting. The result has been enormous savings, and I think that the Secretary adequately covered that area. In fact, I think our recent record is eloquent testimony to our successes in independent cost estimating, competition, second sourcing, fixed price contracts, and the like. Our ships and aircraft are being delivered on or ahead of schedule, and under or at cost, and into the hands of the highly trained, highly spirited men and women of the Navy today.

We are in a period of violent peace, a period characterized by tension, terrorism, and Third World instability. Together we produced a Navy capable of performing its task of a credible deterrent in such a world. Our Navy men and women understand this, and are performing their roles in a superb fashion.

Our 1986 budget request sustains this Navy and its people and permits us to maintain our carefully balanced qualitative advantage at sea. I know that you will consider this year's request in that light.

I thank you for this opportunity to be before this committee, and I will be pleased to answer any questions.

[The prepared statement of Admiral Watkins follows:]

SUMMARY STATEMENT OF ADM. JAMES D. WATKINS
CHIEF OF NAVAL OPERATIONS

Mr. Chairman, it is my pleasure to appear before this committee today to present an overview of our budget request for FY 86; a request balanced across the four pillars and across warfare areas. Derived from national security policy and national military strategy as articulated in Defense Guidance, JCS plans, and contingency plans of the Unified Commanders, the budget is designed to ensure an adequate naval capability today and in the future. It reflects the contributions of our sister Services and allies. The budget continues implementation of a plan put in place in 1981 to restore this nation's naval capability. During the first half of the decade we assigned top priority to correction of unacceptable force structure and readiness levels. During the remainder of the decade we will place increasing emphasis on sustainability and modernization. We remain on course, on track, and on time. I want to review the plan, indicating priorities, highlighting accomplishments, and mentioning requirements for FY 86 and the remainder of the decade.

When we began to restore America's naval capability in 1981, the fleet had declined since 1968 from 957 to 479 ships. As my predecessor testified, we were trying to fulfill a three ocean commitment with a 1-1/2 ocean Navy. Rebuilding the fleet had to have top priority. With strong Congressional support, we are well on our way to achieving a balanced 600 ship Navy by 1989, including 15 carriers, increased amphibious lift, recommissioned and modernized IOWA class battleships, TICONDEROGA-AEGIS class cruisers, ARLEIGH BURKE class destroyers, 100 nuclear powered attack submarines, and a strengthened leg of the strategic triad in the OHIO class submarine, and TRIDENT II missiles. During the past four years we added 86 brand new highly capable fleet units and retired 42 old World War II technology ships for a 27 percent turnover in the fleet.

Between 1981 and 1985, force structure funding increased at an average annual rate of 8.3 percent and accounted for 24 percent of Navy TOA. In FY 86, force structure funds have increased only 4.2 percent and represent 20 percent of TOA. The declining force structure share of TOA is possible because of our investment in ships and aircraft during the first half of the decade -- we have essentially bought the 600 ship Navy. Secondly, our efficiencies and sound business practices emphasizing independent cost estimating, competition, second-sourcing, multi-year procurement, leasing, and firm fixed price contracts have permitted us to reduce the cost of ships and aircraft. We plan to procure 23 ships in FY 86, one more than in FY 85, with an SCN request in FY 86 \$173 million less than in FY 85. Indeed, the FY 86 SCN request is six percent (constant dollars) less than in FY 85.

We have requested funding for 23 new ships, five conversions of existing ships and 322 aircraft in FY 86. I understand the fiscal concerns of Congress and appreciate the temptation to reduce SCN and APN appropriations. However, a reduction in these appropriations will lead to costly stretch-outs and less economical buys, negating efficiencies and savings achieved over the past four years.

Our plan to restore this nation's naval capability also placed high priority on readiness. Five years ago readiness levels had declined to the point that some ships were unable to operate. Over the past four years, we invested approximately 54 percent of Navy TOA in readiness accounts, mostly MPN and OMN, to rectify the situation. Our efforts have paid off handsomely. Today, 29 percent more surface ships, 34 percent more submarines,

and 42 percent more aircraft squadrons are combat ready than five years ago. These dramatic improvements result from increased funding you provided to readiness accounts and our careful management of those funds.

Because of our improvements, we require less growth in readiness for FY 86 and the remainder of the decade. This budget represents only a 2.5 percent increase for readiness and the FY 86 OMN request increases only 0.2 percent over FY 85. That figure reflects 20 fewer ships in overhaul, virtual elimination of the previous overhaul backlog, longer operating periods between overhauls, increased use of cost-effective Selected Restricted Availabilities, and stable ship operating tempo rates.

Nothing has been more central to improved readiness in the Navy than our improved manpower posture. Personnel readiness increased substantially between 1981 and 1984, and is without question the foundation of our overall readiness improvement. Five years ago we could not meet either recruiting or retention goals. With increased pay and benefits you provided, we just finished our fifth straight year of satisfying recruiting goals. Retention of high quality petty officers has never been higher. To maintain this positive trend and sustain fleet readiness, I strongly urge you to approve the DOD FY 86 pay raise request and other requested special pays and benefits programs, such as Selective Reenlistment Bonus, enhanced Nuclear Officer Incentive Pay, Aviation Officer Continuation Pay, and targeted Submarine Duty Incentive Pay.

I also recommend you approve the requested 15,000 active end-strength growth for FY 86 for a total of 586,300. Reserve force structure improvements necessitate increases for average strength of all Reserve personnel in a paid status of 10,500 to reach a total of 134,400. I cannot overemphasize the importance of these marginal increases. A 600 ship Navy represents a 25 percent increase in the size of the fleet from its low point in 1980. Yet our efforts to reduce the manpower intensity of ships and aircraft squadrons will enable us to man the fleet with less than a sixteen percent increase in active end-strength from the 1980 level. Accordingly, Navy end-strength needs to grow at a modest average annual rate of only 1.7 percent for the remainder of the decade. With increased integration of and reliance on Reserve forces into the Total Force, manpower costs for the 600 ship Navy will not grow excessively. In fact, we project a requirement for only 1.6 percent annual real growth in the MPN and RPN appropriations for the remainder of the decade.

Although we placed top priority on force structure and readiness problems during the first half of this decade, we also made impressive improvements in sustainability. We have achieved dramatic inventory increases of cruise missiles, air-to-air missiles, air-to-ground missiles, and torpedoes. Additionally, we have steadily moved toward a sufficient level of in-theater medical health care and support. By the end of FY 86 we will have begun procurement of over 5,000 fleet hospital beds. Our first hospital ship, USNS MERCY, will be commissioned next year with a second to be commissioned in FY 87.

Sustainability, which accounted for four percent of the Navy budget in 1980, represents eight percent of the FY 86 request. Between 1980 and 1986 sustainability will increase by nearly 135 percent real growth while overall Navy TOA will increase by 53 percent. Sustainability funding has grown by more than any of the other budget pillars between 1980 and 1986. With the exception of the RDT&E appropriation request, the largest real

growth in the FY 86 request is sustainability related (RPN, 11.3%; OMNR, 11.9%; WPN, 22.7%; OPN, 18.8%). Sustainability emphasis directly reflects requests submitted by the Unified Commanders. The \$133 million increase for sustainability in FY 86 achieves nearly full funding of the Department of Defense sustainability objective. Because of this emphasis, cross-decking requirements, another prime concern of the Unified Commanders, will be eliminated by 1989.

The 600 ship Navy is now within sight and will be achieved by 1989. With a nominal ship life of 30 years for most combatants, 45 years for aircraft carriers, many of these 600 ships will be with us until well into the next century. Our continuing capability to deal with a rapidly advancing Soviet naval threat will be accomplished through the modernization program.

Modernization, approximately 19 percent of the FY 86 request, encompasses Research, Development, Test and Evaluation (RDT&E), SHIPALTS, and aircraft and weapons modifications. From 1980 to 1986, modernization funding increases at a rate of 80 percent. As we have essentially bought the 600 ship Navy, modernization funding will assume even greater importance and priority for the remainder of the decade. The FY 86 RDT&E request represents 16.5 percent real growth over FY 85 funding. The Soviets already outnumber us by about three-to-one and we depend on the modernization program to provide qualitative superiority to counter the Soviet quantitative advantage.

For example, modernization programs in the FY 86 budget such as SSN-21, SUBACS, MK 50 Lightweight Torpedo, MK 48 ADCAP Torpedo, SH-3A CV helicopter replacement, SSN-688 improvement, SQS-53 B/C Sonar, and LAMPS MK III ASW helicopter are key to maintaining our ASW advantage. Our AAW capability depends on programs such as New Threat Upgrade (NTU) for selected pre-AEGIS TERRIER and TARTAR guided missile ships, F-14D, DDG-51, Five Inch Rolling Air Frame Missile, and Vertical Launch System (VLS) for TICONDEROGA class cruisers and ARLEIGH BURKE (DDG 51) class destroyers. The A-6 Upgrade, J VX, and LHD-1 programs will help maintain our amphibious/strike warfare capability. FY 86 command and control modernization programs such as Relocatable Over-the-Horizon Radar (R OTH-R), Advanced Combat Direction System (ACDS), Joint Tactical Information Distribution System (JTIDS), Anti-Jam High Frequency Radio, and MK XV Combat Identification System will enhance our ability to direct naval forces and their weapons.

We have followed a rational and comprehensive plan in applying the funds Congress has provided since 1981 to rebuild this nation's naval capability. Because of the top priority we directed to procurement of capital intensive ships and aircraft during the first half of the decade, less fiscal growth is required for the remainder of the decade. Indeed, we need only slightly more than half the growth required during the first half of the decade to maintain the very positive momentum established over the past several years.

I have full confidence in the soundness of our estimates for future fiscal requirements. We have demonstrated that we are not underestimating the cost of ships and aircraft. With emphasis on independent cost estimating, competition, second-sourcing, and firm fixed price contracts, ships and aircraft are being delivered on or ahead of schedule and at or under contracted price. We now bring those same business practices to bear in the procurement of spare parts and modernization equipments and

systems. We are streamlining our maintenance procedures, reducing the frequency of overhauls, and emphasizing the cost effective practice of Selective Restricted Availabilities. Our estimates for future fiscal requirements are sound and reasonable and will provide the naval capability essential for this island nation.

The Navy's role in maintaining national security while deterring conflict will remain crucial in the unstable, violent world in which we live. We recognize our unique responsibilities in deterring violence across the spectrum of conflict and controlling escalation when conflict occurs. We are prepared to respond to the challenges we surely will face. The support of the Congress and the American people, coupled with the selfless professionalism of the men and women in Naval uniform who give 110 percent everyday, guarantee that the Navy will continue to be at-sea, underway, helping to protect and preserve the ideals cherished by the people of this great nation.

Prepared Statement of Admiral James D. Watkins, USN
 Chief of Naval Operations

Mr. Chairman and distinguished members of the committee, I am grateful for the opportunity to appear before you today to report on the status of our Navy. It is the finest Navy in the world and more capable of fulfilling our national security objectives than at any time during my 40 years of service. This capability has never been more crucial, for the challenges to peace have never been more complex and demanding. We must contend with threats which range from low level conflict and terrorism to strategic nuclear war. There is no indication this situation will improve in the foreseeable future.

Four years of Congressional and public backing have indeed made a remarkable difference. Our posture has improved dramatically over the past few years. In 1980 we had 479 ships in the fleet and were barely able to meet our peacetime commitments. Deficiencies in readiness prevented some ships from operating at all. In just four years we have added 44 ships to the fleet and readiness has improved markedly. Stocks of munitions, spare parts, and other essentials of sustainability continue to approach desired levels.

But of all the elements that constitute the Navy's enhanced posture, none is more important than the character of the men and women who serve. Our sailors today exhibit a renewed spirit and vigor that forms the cornerstone of renewed naval strength. Like their fellow countrymen, Navy men and women feel good about being Americans and reflect a patriotism and deep sense of commitment to country which is truly inspiring. Over the past several years, programs to rebuild a once mislaid sense of pride and professional competence have paid off handsomely and have been complemented by the patriotic spirit which I described. We have set exacting standards and demanded a great deal of our sailors, and they have responded magnificently. The U.S. Navy is the finest in the world because its sailors are the finest. They are proud of their country and their profession; they are good at what they do; they are dedicated and self-sacrificing. They deserve your support.

Revived patriotism alone does not recruit and retain sailors. The Navy's personnel picture is sound today, but a growing economy increasingly competes for the talented people we need. America's young people, perhaps more than ever, demand the opportunity for upward mobility and economic advancement, and if they do not find it in the Armed Services, they will seek it elsewhere. Already, we sense disturbing trend indicators on the horizon. Providing continued support for military pay and benefits programs is one of the most important budgetary issues we face this year.

Before addressing budget issues, however, I will review the Navy's key role in support of national security policy, focusing on the nature of the "violent peace" we face and the unique contribution of naval forces in controlling crises and deterring conflict across the entire spectrum of violence. I also will describe certain naval operations and exercises over the past year, vivid examples of these unique contributions. The Navy was at sea in large numbers every day of the year in support of U.S. policy and military strategy of deterrence. We tested plans to keep America free and at peace in wargames, exercises, and actual operations. Finally, I want to discuss some key issues facing

the Navy today and describe in detail plans to apply the resources you provide.

Today's capable Navy would not have been possible without strong Congressional support. Your continuing support is necessary to sustain progress. I want to make special note of how keenly we recognize our obligation to be responsible stewards of resources you provide. I think it will be clear that America's commitment to a stronger defense is well founded and well managed. Increased funding has produced tangible results, and your continuing confidence and support are warranted.

NATURE OF THE CHALLENGE: AN ERA OF VIOLENT PEACE

United States national security policy is designed to preserve freedom, with institutions and values intact. We are a global power with global interests and obligations. We live in a world with manifold threats to U.S. interests and must deal with a wide range of threats to freedom. Earlier, I mentioned the continuum of threats from low-level violence to nuclear war, from terrorism to major conventional conflict. At the upper end of the spectrum, demarcations between peace and war are clear, and America today is at peace. But at the lower end of the continuum, differences between war and peace are blurred. Our forces deployed in their traditional roles of presence and crisis response live daily with the threat and reality of violence from a variety of sources. America is at peace, but it is a violent peace.

A principal feature of this era is the continuing and widespread existence of localized conflicts and crises, mostly in the Third World, but often with global implications. This past year alone, millions of people were involved in over 30 armed conflicts throughout the world. These ran the gamut from civil unrest in Sri Lanka, to insurgencies in Central and South America, to civil war in Chad, to direct conflict between states in the Persian Gulf.

These conflicts, and a number of other crises with the potential for armed conflict, frequently involve interests and commitments of major world powers. These confrontations often transcend interests of states directly involved and serve as backdrop for potentially more serious conflicts between major powers. Indeed, a fundamental component of the Navy's ability to deter war with the Soviet Union is our ability to stabilize and control escalation in Third World crises.

The profusion of crises and conflicts has been a feature of the international environment since World War II. Potential crises and the aftermath of crises have increasingly defined the location and character of our forward deployments. We now maintain a continual presence in the Indian Ocean, Persian Gulf, and Caribbean, as well as our more traditional forward deployments to the Mediterranean and the Western Pacific. Although technically we are at peace, our operating tempo is about 20 percent higher than during the Vietnam War. The Navy is on the front lines of today's violent peace, and I see little likelihood of significant improvement in the foreseeable future.

The causes of today's conflicts and crises are almost as numerous as the conflicts themselves. Many, unfortunately, are rooted in ancient and unresolved hostilities between religious, ethnic, and social groups. Others are caused or exacerbated by economic and attendant political instability, as well as actions

of totalitarian and aggressive governments. Despite efforts of dedicated and skilled negotiators, crises and conflicts probably will continue.

While not always the principal cause of these conflicts, the Soviets frequently exploit instability in the Third World to promote creation of Marxist governments, improve their strategic position, and reduce Western influence. Soviet methods have included indirect support and encouragement of limited warfare by Cuban, Syrian, Libyan, and North Korean proxies as well as direct Soviet crisis response by their own forces. Since 1948, the Third World has been the most common arena for U.S.-Soviet competition. This pattern, too, will continue. U.S. interests and commitments are worldwide, and increasingly focus on the Third World. Our economy and security require not only oil from the Persian Gulf and Caribbean, but strategic minerals from southern Africa. Our trade with nations of the Pacific Basin now exceeds that with Europe. Obviously, we have vital stakes in what happens in these and other key areas.

In this era of violent peace, traditional challenges to peace and stability which I just reviewed have been compounded by several trends including increased Soviet capabilities for global military reach, a proliferation of modern weaponry in the Third World, and the rise of international terrorism. I would like to address these complications.

The Soviets have steadily built a capacity for global military reach. Their military airlift has gradually increased. Sealift has grown substantially with addition of modern amphibious shipping plus dramatic expansion of the Soviet merchant fleet. The Soviet Navy, with V/STOL carriers today and a large-deck nuclear powered carrier under construction, is increasingly capable of sustained distant operations. Additionally, the Soviets have continued to expand and improve their attack submarine force, making it a formidable, global threat. They also have enhanced their global reach by access to air and naval facilities in key strategic locations, including Ethiopia, Yemen, Cuba, and Vietnam.

Most importantly in this regard, Moscow has recently established its first fully developed overseas base at Cam Ranh Bay, Vietnam. Those facilities can now independently support a large concentration of Soviet naval forces, maintaining a permanent naval force astride key sea lanes to our Pacific allies and friends. Cam Ranh Bay forces can strike key U.S. and friendly forces and installations as far north as Hong Kong. These changes in Soviet military reach have occurred in a region where Moscow's presence was negligible only two years ago.

Improved power projection forces and global access provide the Soviets a growing capability to intervene militarily in the Third World. They steadily improve their ability to sever vital Sea Lines of Communication (SLOCs) while improving their ability to counter U.S. crisis reaction moves. U.S. naval forces deployed to areas of crisis often find themselves in company with increasingly capable units of the Soviet Navy. Responding effectively to Third World crises may well require that U.S. Navy units bring the range of capabilities necessary to deal with Soviet as well as Third World threats.

The continuing proliferation of modern, high-technology weaponry further complicates Third World instability. Certainly the most alarming aspect of this proliferation is the growing

number of nations in a position to acquire weapons of mass annihilation -- chemical, biological, even nuclear. Even in the absence of such weapons, impressive conventional arsenals possessed by Third World nations pose an immediate concern; Libya is a case in point. While these weapons do not fundamentally change the causes of instability in the Third World, they do change the nature of conflict and the threats we face. Naval forces must be prepared to encounter high technology, combined arms threats in virtually every ocean of the world.

The rise of state sponsored terrorism has created a new and most disturbing element of violent peace. Although we are at war with no nation, various groups have proven themselves ready to strike at us and other free nations with murderous effect. Terrorism's unpredictability, worldwide scope and anonymity render it one of the most insidious threats we face today. Terrorism is not new, but the threat has increased because terrorism has become a preferred arm of state action in some cases. Evidence exists that several nations sponsor terrorist training camps on their soil and send forth agents of murder and destruction as an element of national policy.

The significance of terrorism lies not only in the fact that it takes innocent lives, but also that it is yet another point on a broad continuum of conflict. International terrorism threatens our forward defense. Placing at risk our forward deployed forces, terrorists seek to paralyze our employment of these forces, undermine our commitments abroad, and intimidate us into withdrawing.

This brief survey of the world scene is by no means comprehensive, rather it highlights two important developments which the Navy faces everyday in our forward deployed role: terrorism and an era of violent peace. In facing these challenges, we contribute in a significant and unique way to deterrence at all levels of the continuum of conflict.

ROLE OF THE NAVY -- DEMONSTRATED DETERRENT VALUE

The fundamental task of U.S. military forces is to deter war and preserve peace. Hence, our strategy is based on deterrence, forward defense, and alliance solidarity. The Navy's demonstrated deterrent value across the entire continuum of potential conflicts is based on forward deployments and flexibility. Our maritime strategy recognizes and depends on close cooperation with allies and sister Services. These principles infuse every aspect of force structure, strategy, and operations.

Deterrence is most often associated with discussion of strategic nuclear warfare, where strategic submarines have proven to be a most credible deterrent for over two decades. Yet, deterrence is much broader. To protect national interests, we must deter threats ranging from terrorism to nuclear war. This requires a credible preventive and reactive capability at the level of conflict we seek to deter. Our national interests further require an extended deterrent capability. We must deter coercion and military attack not only against the U.S., but also against allies, trading partners, important resources, and U.S. interests and installations worldwide. Perhaps most importantly, protecting national interests while preventing war, particularly nuclear war, requires an ability to control escalation. We seek to deter a threat at a particular point on the spectrum of conflict, but when deterrence fails, we seek to control

escalation.

Naval forces provide credible, capable deterrence at any level of potential conflict, exercise this capability worldwide in support of an extended deterrence posture, and provide precise and graduated responses necessary for escalation control. The evidence is a matter of record; the Navy, together with the Marine Corps, has played a central role in deterrence, and provided escalation control in an exceptional range of situations and at different levels of potential conflict.

The cornerstone of national security policy is nuclear deterrence and, at the strategic deterrence level, the Navy has provided a survivable submarine ballistic missile force. Today, as TRIDENT SSBN's enter the fleet in growing numbers, this element of deterrence increases in importance. The OHIO class submarine's ability to disappear in the world oceans, combined with the range and accuracy of the TRIDENT C-4 missile today and the D-5 in the near future, makes this force resistant to preemption and capable of assured and effective retaliation. These magnificent ships have shown consistently superb operational results.

The nuclear variant TOMAHAWK land attack missile - TLAM/N - complements the strategic deterrent of our SSBN force. Planned for surface ships and submarines, TLAM/N provides a significant new capability to deter escalation to nuclear war in any theater, as it possesses the inherent worldwide mobility and survivability of naval forces. In addition, it makes a major contribution to deterrence through its role in the theater nuclear reserve.

Another equally significant Navy contribution to deterrence lies outside the nuclear context, at the level of conventional conflict and crisis response. Every day, forward-deployed naval forces operate worldwide preventing onset of crisis or outbreak of hostilities which could threaten our global interests. When crises occur, naval forces limit and stabilize the crisis, discourage escalation, and deny any opportunities to Soviet or proxy forces.

The Navy plays a particularly important role in the event of a broad conventional conflict with the Soviet Union. Our alliances are ocean alliances, and the Navy's ability to maintain Sea Lines of Communication will ensure that the Soviets cannot partition the Allies and achieve a quick victory. Moreover, striking power of forward deployed naval forces will be essential to controlling escalation and terminating conflict on terms favorable to the U.S.

Crisis response has long been the business of the Navy and Marine Corps. Between 1946 and 1982, in some 250 instances of employment of American military forces, naval forces were used about 80 percent of the time. Reasons for selecting naval forces as the instrument of choice for crisis management and deterrence of conflicts are illuminating:

- Forward-deployed posture and rapid mobility make naval forces rapidly available at crisis locations worldwide, providing significant deterrent value and reducing the likelihood of ambiguous or short warning.

- Naval forces maintain consistently high states of readiness due to forward deployments, ensuring operational expertise and day-to-day preparedness.

- Naval forces increasingly operate with armed forces of our friends and allies. We now routinely operate with our sister Services in joint operations and exercises.

- Naval forces can be sustained indefinitely at distant locations, with logistics support relatively independent of foreign basing or overflight rights.

- Naval forces bring the range of capabilities required for a credible deterrent. Capabilities demonstrated in actual crises include maintaining presence, conducting surveillance, threatening the use of force, conducting naval gunfire or air strikes, landing Marines, evacuating civilians, establishing a blockade or quarantine, and preventing intervention by Soviet or other forces.

- Perhaps most importantly, naval forces have unique escalation control characteristics that contribute to effective crisis control. Naval forces can be intrusive or out of sight, threatening or nonthreatening, easily dispatched but just as easily withdrawn. The flexibility and precision available in employing naval forces provides important escalation control in any crisis, but has particular significance in crises which might involve the Soviet Union. The Navy remains keenly aware of its crucial role in this area and has devoted increasing attention to employment of naval forces in this capacity.

Our experience leads to the following observations:

- Deterrence requires forward-deployed forces, both for preventive and reactive reasons. Current commitments to extended deterrence and the potential range of crises require a balanced 600-ship Navy.

- Deterrence requires ready and sustainable forces, implying continued emphasis on our readiness and sustainability programs.

- Deterrence requires capabilities adequate to the threat. Increasing Soviet global reach and proliferation of modern weaponry demand the highly capable forces we are now building.

- Finally, deterrence requires an ability to cope with all levels of the conflict continuum including international terrorism.

In summary then, I reiterate my two principal themes:

- First, we live in an era of violent peace, characterized by a continuum of potential conflicts and violence.

- Second, the Navy operates in the front lines of this violent peace in our everyday, forward-deployed role worldwide, continuing to demonstrate deterrence across the spectrum of potential conflict.

NAVAL OPERATIONS

This past year provided clear examples of the challenges of an era of violent peace and the Navy's role in meeting those challenges. As the year dawned, turmoil in the mid-east continued to boil as conflict continued in Lebanon, the Iran-Iraq

War entered its fifth year, and terrorist attacks continued against Israel. Then came mining of the Red Sea last summer. In north Africa the Chad-Libya conflict continued sporadically. Unrest in Central America continued with open conflict in El Salvador. Unfortunately, this level of violence during peacetime has become so commonplace that we tend to overlook the potential for these events to escalate, spread, and lead to direct superpower confrontation. Fortunately, conflicts this past year did not bring the superpowers to a face-to-face confrontation and did not expand. The year ended without erosion of our global posture, and the Navy again played a key role in safeguarding U.S. and allied interests.

The recent deployment of the aircraft carrier INDEPENDENCE battle group and accompanying Marine Amphibious Ready Group (MARG) provides a dramatic example of the flexibility and utility of naval forces in this period of violent peace. When the battle group and MARG steamed from Norfolk in the fall of 1983, they expected their first operation to be a Mediterranean exercise. But only a few days out of port, acting on the request of eastern Caribbean nations to move forces to the vicinity of Grenada, the National Command Authority transmitted a turn starboard signal. The Navy-Marine Corps team responded magnificently and was a key element in the Grenada rescue mission.

Only eight days later the INDEPENDENCE battle group and MARG were off again, headed for the eastern Mediterranean. Upon arrival, the force took up the support mission to Lebanon, a mission complicated by the tragic loss of 241 brave Marines and sailors a few weeks earlier. In Lebanon, though odds were clearly against us, the United States was trying to give peace and stability a chance.

INDEPENDENCE's reconnaissance flights, flights requested by the legitimate government of Lebanon, were fired on by Syrian-backed forces. The situation was untenable and action was required to silence those hostile forces. Again, the INDEPENDENCE battle group's performance was superb when put to the test.

Also off the coast of Lebanon, the wisdom of past Congressional decisions to recommission IOWA class battleships and to build TICONDEROGA class cruisers became manifest. After the tragedy of the suicide bombing of the Marine Barracks in Beirut, you will recall that the Secretary of Defense dispatched the battleship NEW JERSEY to waters off Lebanon. In the weeks preceding NEW JERSEY's arrival, cruisers, destroyers, and frigates provided naval gunfire support to silence hostile fire aimed against our Marines. Their accurate, effective gunfire demonstrated our resolve not to let direct acts of aggression go unanswered. The battleship's presence, however, greatly increased the firepower and underscored the fullness of our commitment. When that magnificent "Battle Wagon" arrived, after having been recommissioned at less than the cost of a new frigate, she carried a powerful message both to those who would fire on our Marines and to the Marines themselves. As one young Marine, who served in Beirut while NEW JERSEY was off the coast, put it -- "To Marines who need gunfire support, a battleship is like one of those famous credit cards -- don't leave home without one." NEW JERSEY proved the quality of her original construction and modernization -- during her first deployment, which lasted nearly a year, she steamed without a single debilitating casualty.

TICONDEROGA first deployed last year, just nine months after commissioning, to the eastern Mediterranean where she operated in the task force with NEW JERSEY. TICO's performance was outstanding in all respects. Her AEGIS weapon system, the most sophisticated Anti-Aircraft Warfare (AAW) system in the world, provided a complete and comprehensive air picture of such unprecedented quality that Commander Task Force Sixty reported a substantial drop in Combat Air Patrol requirements. This meant a significant aviation fuel savings for the carrier's air wing. Concern over suicide aircraft attacks was alleviated by the complete air picture TICONDEROGA provided. We had our guard up and were prepared to react to any attempted attack.

Not far from Lebanon, those bent on fomenting more unrest in the mid-east mined the Red Sea. Again, naval forces deployed to help locate and eliminate the mines which were hazarding international shipping approaching the Suez Canal. The dock landing ship SHREVEPORT and her mine clearing RH-53 helicopters responded on short notice and in cooperation with other Navies successfully cleared the sea lanes. The operation also included a second contingent of RH-53s specifically requested by Saudi Arabia to clear sea areas of special interest to the Saudis. As yet another indication of the flexibility of naval forces, USS LA SALLE, flagship of Commander Middle East Force, was directed to the Red Sea to support the RH-53s.

While the Iran-Iraq war continued, a Navy battle group remained on station in the northern Arabian Sea and naval forces, including modern destroyers and frigates, continued to operate in the Persian Gulf. These forces provided constant reminder to belligerents and neighboring states of U.S. resolve to prevent the conflict from spreading and to affirm U.S. commitment to maintain vital Sea Lines of Communication (SLOCs) in the region. Our attack submarine force continued its high tempo operations demonstrating an ability to deploy on extremely short notice in both Fleets.

These selected examples highlight the Navy's continuing support of our country's national security objectives. Your Navy is at sea, forward deployed every day of the year doing many of the same things we would do in war. Indeed, by maintaining our forward deployed status, we help keep the peace we so cherish.

On any given day this past year nearly one-third of the Navy was underway. We conducted presence operations off the coast of Central America, monitoring possible arms shipments to that troubled part of the world. Exercises in the Caribbean demonstrated our resolve to support neighbors and allies in this hemisphere. We helped stem the flow of illegal drugs into the U.S. by Drug Interdiction Operations. Navy support of a major U.S. Coast Guard drug interdiction operation in the Caribbean last November and December, Operation Wagon Wheel, resulted in the seizure of 23 vessels. The Navy deployed to the Mediterranean fulfilling NATO obligations and reaffirming our commitment to key allies. Deployments to the Indian Ocean and Arabian Sea reminded the world that we will maintain key Sea Lines of Communication leading from the Persian Gulf. A task force circumnavigated South America and visited west African nations demonstrating our ties to the South Atlantic region. The Seventh Fleet operated in the western Pacific, demonstrating recognition of the strategic importance of economic and political ties in the burgeoning Pacific Basin. Of course, the submarine ballistic missile force maintained a continuous and invulnerable vigil ensuring strategic deterrence.

More than half of our sailors are assigned to sea duty and accept long periods of separation from their families and loved ones. Indeed, sailors assigned to aircraft carriers are away from their families over 70 percent of the time. Yet, despite these arduous conditions, nearly 60 percent of first-term enlistees decided to re-enlist last year. Many of these young sailors are highly trained technicians with good civilian job opportunities. Why do they re-enlist? No doubt there are many reasons. But without professional and competent leadership, they would not have opted to continue their service. The superb leaders in today's Navy are an indispensable factor in our performance.

We are not resting on past laurels. We continually develop and test new tactics and refine strategies. Ships at sea conduct training to polish their tactical proficiency. For example, three aircraft carriers operated as a single battle force in the Pacific last fall to train in employment of multiple carriers. After completing such training exercises, we carefully analyze data collected in an effort to find improved procedures or tactics. We are not a static force. Even in-port, crews conduct exercises through very realistic, high-technology simulation techniques. And at the Naval War College we carefully refine strategy and tactics to enhance operational effectiveness.

I am quite proud of the initiatives we have taken at the Naval War College. Naval officers now recognize it as the crucible for strategic and tactical thought -- just as it was under Admiral Alfred Thayer Mahan. Almost all of our Commanding Officers now attend the War College upon completion of their command tours. This allows us to provide benefits of the very latest strategic and tactical experience to more junior students at the War College. We also have invigorated the Wargaming Center collocated at Newport. The Center is the most advanced such facility in the world, allowing us to test alternative strategies and tactics. We conducted 43 war games at the Naval War College during 1984. There was not a single day last year when the Center was not conducting or planning a war game.

Let me make one more important point about the Naval War College. Each year we select six Navy Captains and two Marine Corps Colonels who have distinguished themselves as outstanding strategists and tacticians. These officers form the Strategic Studies Group and spend a year dealing with some of the toughest tactical and strategic issues. They report directly to me.

We place great emphasis on joint operations with our sister Services. In addition to our historic and unique partnership with the Marine Corps, we have over the past several years strengthened our partnership with the Air Force, Army, and Coast Guard in planning, exercising, and executing joint operations. An important part of our cooperative effort has been the Memorandum of Agreement (MOA) which I signed with the Chief of Staff of the Air Force in September 1982. This MOA accelerated such on-going efforts as routinely including Air Force units in fleet exercises, developing doctrine and procedures for employment of AWACS and B-52's in maritime missions, and identifying aerial refueling requirements. The MOA also led to several new initiatives such as data link and communications interoperability, and joint air combat training ranges. Another example of our cooperative efforts with sister Services to correct warfighting deficiencies is the Memorandum of Agreement which I signed with the Commandant of the Coast Guard establishing Maritime Defense Zones (MDZs). Under this MOA,

Coast Guard units combined with Naval forces, both Active and Reserve, will defend harbors and shipping lanes along our coasts in time of war. Navy-Coast Guard planning continues for the most efficient and effective use of MDZ forces to ensure adequate coastal defense. The Navy is also supporting the MOA signed last year between the U.S. Army and U.S. Air Force. We have identified eleven areas in that MOA in which we can contribute to enhanced joint operational effectiveness, and we are pressing ahead to do so. Efforts like this complement vigorous JCS efforts, including JCS-directed joint exercises and pilot projects on tactical and strategic air support to maritime operations.

In summary, because of their daily involvement in actual operations, at-sea exercises, and wargames, the men and women who lead the Navy today are creative tacticians and thoughtful strategists. They have indeed been honed in real world experiences of maintaining our freedom in a violent world. These leaders not only ensure our ability to deter conflict and protect U.S. interests today, they also develop the capabilities which will assure a similar posture in the future.

THE NAVY TODAY

Last year and the year before, I reported to you on my positive views regarding "...the current state of the Navy because of the favorable trends..." made possible by your support. I am pleased to report that those trends have continued. I am particularly pleased with steady, dramatic improvements in readiness and sustainability. This improvement reflects in large measure careful husbanding of resources and improved management techniques.

Management: The Good News

For the past two years I reported to Congress on our efforts to improve management policies and practices. We again made substantial improvement in 1984, but our very real progress is too often lost in the glare of publicity accorded instances of mismanagement, practices normally discovered and remedied by the Navy. One reads about \$426 claw hammers and \$100 diodes, but you do not hear the rest of the story. Yes, we paid \$426 for a claw hammer. But we bought only one at that price, and then demanded and received reimbursement. Yes, we did purchase two diodes for \$104 apiece. However, we received a full refund for both and purchased 122,000 of the same diodes at four cents apiece.

We are not perfect managers, nor have we made such a claim. Like most, we have chinks in our management armor. This was true particularly during the 1970s when double-digit inflation hid too many management weaknesses and budget austerity led us to believe we could scrimp on people and rely solely on computers. Attempted cures sometimes caused greater ills, such as lapses in quality control, hidden practices of gross overcharges, and abandonment of hands-on control techniques. Obviously, our management problems did not derive from criminal intent. They came from the unwitting waste of business-as-before management when economic convulsions were rampant.

The Navy has responded to the management challenges posed to correct earlier problems. Our own price fighters have exposed the vast majority of these problems. Investigative reporters are not the first to lift the rug and find excesses -- it is our own

hardworking and concerned people. We recognize our responsibility to correct our own problems and use wisely the defense dollars entrusted to our care.

We can look with pride at a growing list of success stories. The results of our efforts to increase the use of competition have been impressive as shown in Figure One. In FY 84 we awarded 14.5 billion dollars competitively. That figure represents 37 percent of total Navy procurement dollars and is a 54 percent increase over the total dollars awarded competitively in FY 82.

Equally significant is the fact that over 50 percent of all individual contract actions processed by the Navy last fiscal year were competitive. That contrasts with just 30 percent in FY 82. Competition in spare parts procurement totalled more than a billion dollars awarded competitively in FY 84, a 133% increase over the FY 82 amount. Representative of our increasing emphasis on competition, we have set a challenging goal for FY 85 of 45 percent of direct purchase dollars to be awarded competitively.

Paralleling these initiatives, the Navy has moved to allow more contractor participation in weapon systems design, and we have benefited through our expanded use of fixed price incentive contracts. Nearly all FY 84 shipbuilding contract awards were either Firm Fixed Price or Fixed Price Incentive with equal sharing of cost savings or cost growth up to the ceiling. Under these 50-50 share line arrangements, contractors are rewarded for under-budget performance and penalized by sharing cost growth up to the contract ceiling and bearing all cost growth over ceiling. This business strategy is being continued.

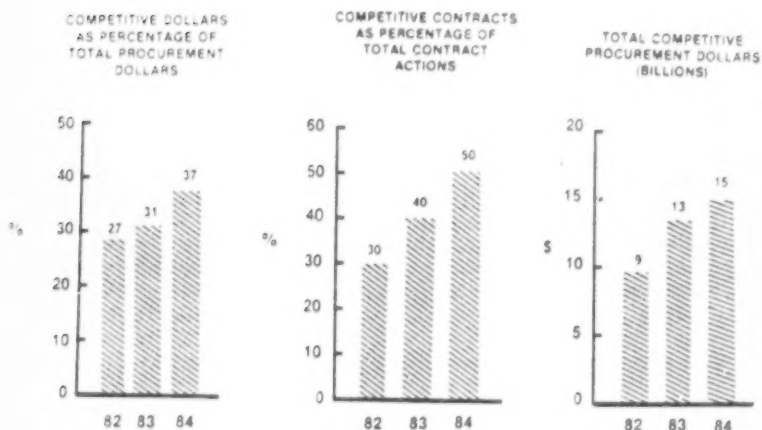
Multi-Year Procurement and leasing programs also have contributed significantly to the procurement economies and efficiencies achieved over the past several years. However, Congressional restrictions on these programs have limited attainment of full potential benefits. I strongly recommend that the restrictions on these programs be reassessed and eliminated.

Let me also mention our Central Navy Integrity and Efficiency Hotline. Its first year of operation led to savings of more than a million dollars. The Hotline, which celebrated its first anniversary on 3 October 1984, received more than 1,000 reports with 400 cases tasked for investigation to either the on-scene chain-of-command or the Naval Investigative Service. The \$1 million savings resulted from such actions as identifying defective supply parts, erroneous shelf lives, excessive pricing and the waste of government resources. The Hotline is but one element of our on-going Navy drive to eliminate fraud, waste, and abuse within the Department.

We also have taken steps to correct deficiencies in the management and reporting of consulting services, generally known as Contractor Support Services (CSS). A Navy working group was established in the spring of 1983 to identify problem areas and recommend corrective measures. OSD created a similar group in June 1984, and the Navy has actively contributed to the group's work. As a result of our efforts, we are developing clearer and more precise definitions of CSS and its components. Also, we are taking action to improve control, accounting, and management reporting procedures for CSS. A new omnibus directive soon will be promulgated to provide comprehensive and consistent CSS policy guidance.

I want to emphasize again we recognize our obligation, and

FIGURE ONE
NAVY COMPETITION PERFORMANCE



COMPETITIVE
SPARE PARTS PROCUREMENT

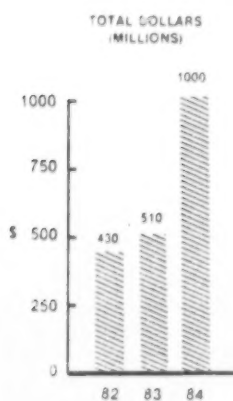
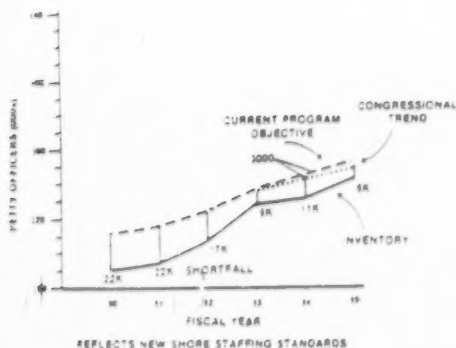


FIGURE TWO
PETTY OFFICERS FOR 600-SHIP NAVY
(E-4 THRU E-9)



we will continue to make every effort to improve stewardship of the nation's defense dollars.

Personnel

A large national corporation used to have as its slogan, "Progress is our most important product." Progress is important in the Navy too, and the key ingredient in our progress is people. I do not have to remind you of the situation which existed just five years ago when some of our ships were unable to get underway. The problem was not lack of fuel, lack of ammunition, or lack of equipment. The problem was a lack of people. We simply did not have enough of the right kind of people to man our ships and aircraft squadrons properly. Five years ago, we had a shortfall of some 22,000 petty officers in the Navy. Congressional action to increase pay and benefits for the military enabled us to make tremendous progress in reducing the petty officer shortfall as you can see in Figure Two. Before pay and benefits increases, we were unable to meet recruiting or retention goals. At the end of FY 84, we recorded the fifty-eighth consecutive month of satisfying our recruiting goals, and were able to reenlist 58 percent of the young petty officers completing their first enlistment. As shown in Table One, second and third term enlisted personnel reenlisted in equally impressive numbers.

TABLE ONE

ENLISTED RETENTION

	<u>ELIG TO REENLIST</u>	<u>RETENTION GOAL</u>	<u>ACTUAL REENLIST</u>
<u>FY 82</u>			
First Term	43,659	47%	21,949 (50.3%)
Second Term	19,867	67%	12,517 (63.0%)
Third Term	18,666	98%	17,788 (95.3%)
<u>FY 83</u>			
First Term	39,185	49%	21,824 (55.7%)
Second Term	17,287	63%	11,312 (65.4%)
Third Term	18,701	96%	18,065 (96.6%)
<u>FY 84</u>			
First Term	45,924	50%	26,631 (58.0%)
Second Term	19,852	65%	12,784 (64.4%)
Third Term	21,052	95%	19,979 (94.9%)
<u>FY 85 (GOAL)</u>			
			(projected retention)
First Term	48,288	58%	28,007 (58%)
Second Term	22,026	66%	14,537 (66%)
Third Term	20,405	95%	19,385 (95%)

Our Family Support Program has contributed substantially to improved retention and is designed to assist our people and their

families with problems inherent in military service. Family Service Centers assisted over 600,000 active duty members and their dependents with help in relocation, deployment assistance, financial education, job referral and counseling. A Family Advocacy Program targets the prevention of and intervention in family violence. This effective, well rounded Quality of Life program lets our people know that we care about their well being; as a result, more decide to remain in the Navy.

However, mere numbers of recruits and reenlistments are not the only objective; quality is of equal importance. Last year 93 percent of non-prior service enlistees were high school graduates and 65 percent were classified in the upper mental group profile on the Armed Services Vocational Aptitude Battery. Moreover, the retention picture has improved to the point that we can be more selective in deciding to allow sailors to re-enlist. I cannot over-emphasize importance of the quality dimension. Those of you who have visited our ships and aircraft squadrons recognize their technological complexity. We need highly capable technicians to maintain and operate state-of-the-art platforms and systems. To match the Soviet Navy's sizeable numerical advantage, we must have a qualitative edge. Such qualitative superiority demands highly capable personnel.

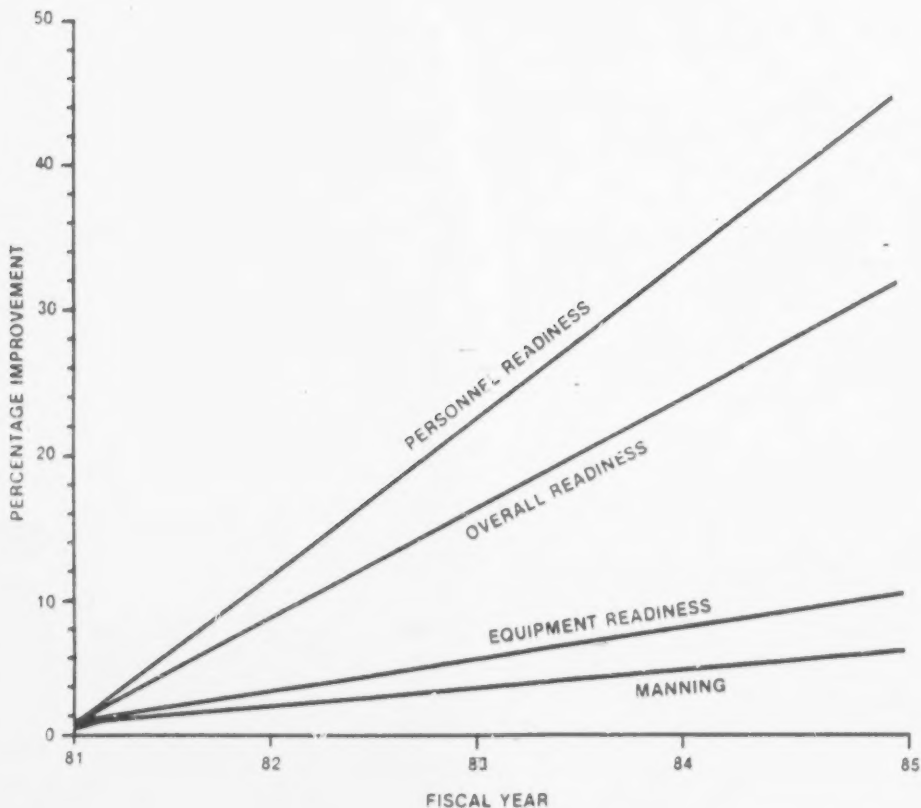
We cannot operate such sophisticated equipment with personnel debilitated by the use of illegal drugs. Yet, in 1980 tests showed that nearly one out of every two sailors used marijuana or hashish. Experts told us we could not make improvements because the Navy was a microcosm of a society which accepted drug abuse. After careful research, we established a scientifically reliable program and enforced it rigorously. Today, tests show that less than ten percent of our sailors use marijuana or hashish and the trend continues to improve. Indeed, our efforts have been so successful that we are consolidating Alcohol/Drug Rehabilitation Centers, and placing greater emphasis on substance abuse prevention.

Yes, our progress over the past several years is largely due to improved manning. The relationship is clear and has been demonstrated by many analyses including one recently completed by the Naval Postgraduate School. Modest increases in manning have permitted us to put the right people in the right places to enhance personnel and fleet readiness. As shown in Figure Three, our ability to recruit and retain personnel in critical skills has resulted in a 32 percent increase in overall readiness since 1981. The SPS-48 radar provides an excellent example. The missile systems on our cruisers and destroyers are dependent on the powerful SPS-48 3D radar to detect threat aircraft and missiles at long ranges. In 1981, we had only about half the required SPS-48 radar petty officer technicians and this key radar had an unacceptable level of down-time throughout the fleet. Today the SPS-48 technician rating is manned at the 100 percent level and down-time per quarter has been reduced by 67 percent. Moreover, the shortage in SPS-48 petty officer technicians forced us to hire civilian contractors to help maintain the radars at a cost of nearly a million dollars per year. Today the requirement for civilian contract support has been cut nearly in half.

Adequate numbers of properly trained, disciplined, and motivated people go far to explain why you no longer hear about ships unable to get underway. We have made other improvements as well, reducing the manpower requirements or manpower-intensity of

FIGURE THREE

FLEET MANNING AND READINESS



our ships and systems. The ARLEIGH BURKE class destroyer (DDG-51) which Congress funded last year is equivalent in size and far exceeds the firepower of a World War II cruiser. Yet the DDG-51 manning requirement is less than one-third of a comparably sized World War II cruiser. These manpower savings are evident in Spruance class destroyers (DD-963) and Oliver Hazard Perry class frigates (FFG-7) as well as other surface ships. In the submarine area, we continue to make major improvements in capability without increases in crew size. Such initiatives have permitted substantial reductions in manpower costs as a portion of the Navy budget. Manpower costs represent 30 percent of the Navy budget today as opposed to 41.6 percent in 1974.

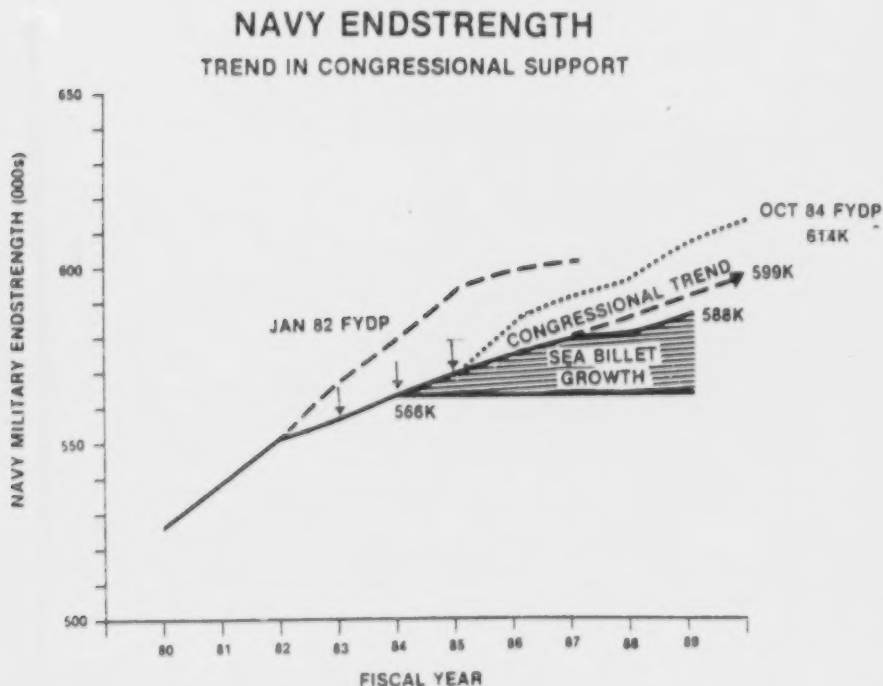
Despite these successes, it is impossible to increase the size of the Navy from 479 ships to 600 ships without an increase in manpower. As we began building toward the 600-ship Navy, we projected a requirement for an additional 102,000 personnel. A 600-ship Navy represents a 25 percent increase in the size of the fleet from its low point in 1980. Yet, improvements in manpower intensity will enable us to man the fleet with less than a twenty percent increase in manpower. Accordingly, Navy end-strength needs to grow at a modest annual rate of less than two percent. However, previous Congresses have capped end-strength growth at about half of this requirement as you can see in Figure Four. This is producing a negative impact on readiness. For the first

time in recent history, CINCPACFLT has included end-strength as one of his top five concerns, indicating that any further degradation of his shore establishment cannot be accepted without a reduction in functions. This level of fleet concern indicates we have reached the limit of shore billet degradation. Also, end-strength constraints limit timely relief of ship based personnel eligible for shore duty and cause longer sea duty tours for sea intensive ratings, which inevitably results in lower retention. If we cannot retain adequate numbers of petty officers, recent achievements in improved readiness and maintenance will quickly erode. Moreover, constraining overall end-strength below programmed levels will require the Navy to reduce accessions. This causes a long-term degradation of petty officer inventories, eventually creating an insufficient base from which to promote the required number of petty officers. The petty officer shortfall projected to be overcome by FY 88 will increase instead, with detrimental effects on fleet readiness. I am not speculating, for we endured a situation much like it in the 1970s. Inadequate numbers of skilled petty officers caused longer sea tours, compounding retention shortfalls, and readiness plummeted. I cannot over emphasize the importance of your approval of our FY 86 manpower request, which I will address in more detail in discussing the budget submission.

600-Ship Navy

With the bipartisan support of the past two Congresses, we are well on our way toward attainment of a balanced 600-ship Navy by 1989 including 15 carriers, increased amphibious lift, recommissioned and modernized IOWA class battleships, TICONDEROGA-AEGIS class cruisers, ARLEIGH BURKE class destroyers, 100 nuclear powered attack submarines, and a strengthened leg of the strategic triad in the OHIO class submarine, and TRIDENT II missiles. This past year witnessed the addition of nineteen ships to the fleet. The battleship IOWA was recommissioned, the

FIGURE FOUR



second of TICONDEROGA class cruisers, YORKTOWN, was commissioned as were one TRIDENT submarine, five attack submarines, eight Oliver Hazard Perry class frigates, and two TAGOS surveillance towed-array ships. Since 1980, the fleet has grown from the 479 ship level to the present level of 523.

Qualitative as well as the quantitative aspects of this growth are very important. We are building the right ships to counter the Soviet Navy's numerical advantage. Such qualitative superiority is obvious in our nuclear powered aircraft carriers and embarked air wings. The improved 688 class submarines being authorized and built today are twice as effective as the original 688 class submarine. We have revolutionized surface combatant Anti-Air Warfare capabilities with the AEGIS system in TICONDEROGA class cruisers. This system's ability to engage large numbers of air threats simultaneously is a major step in countering cruise missile saturation raids. Many of our battleships, cruisers, destroyers and submarines are being armed with TOMAHAWK cruise missiles, capable of flying long distances and attacking targets at sea or on land. Its broad compatibility with our combatants distributes offensive power as never before, greatly compounding the enemy's targeting problem. TOMAHAWK complements the power of the carrier air wing and multiplies the effectiveness of the force at sea. Additionally, TOMAHAWK opens the way for deploying battle forces without carriers when carriers are not available or not appropriate to the threat.

OHIO class SSBNs represent a key element in our strategic Triad and substantially increase our deterrent posture. Any attempted Soviet first strike would leave the TRIDENT force on station, ready to respond and capable of inflicting unacceptable retaliatory damage. The continued invulnerability of our strategic submarines is crucial to our national security. To this end the Extremely Low Frequency (ELF) System adds a significant new dimension to SSBN communications, enabling commanders to communicate reliably with strategic submarines operating at deep depth and standard speeds. Further, our SSBN Security Program continually reviews technologies which conceivably could be relevant to future survivability of the SSBN force, including actual or potential breakthroughs. Although most scientific phenomena are well understood, healthy skepticism and vigilant search for new ideas must be maintained as technologies continue to improve. Because of this program, which stays on the leading edge of science and has the best technical support in the country, our best estimates indicate that there is no credible threat today, or in the foreseeable future, to our SSBN force. The situation is dynamic, and we must continue our vigorous efforts to ensure we remain ahead of the threat.

Recent fleet experiences, especially the Royal Navy's Falkland Islands combat experience, highlight the importance of ship survivability. We must build ships that can go in harm's way, take battle damage, survive, and remain operationally capable. We have made significant progress, and I am dedicated to continue improving our survivability posture. We intend to expedite survivability improvements into the fleet to ensure maximum readiness and warfighting sustainability during peacetime and combat operations.

Results of shock tests conducted this past summer on USS YORKTOWN, second of the TICONDEROGA class cruisers, point to the success of our passive survivability program. YORKTOWN experienced four significant percussion shocks from nearby explosions simulating the effect of battle conditions. Even during the most severe shock, the ship did not go dead in the water. Her main engines were not damaged. Her combat systems were partially impaired, but restored in short order.

Improving ship survivability is an important element in our program to build a 600-ship Navy. I am encouraged by our progress to date and, with your continued support, we will make further headway on this important problem.

Of course, 15 deployable aircraft carriers remain key to an effective, balanced 600-ship navy. We will achieve that goal by building the three new carriers authorized and funded and by modernizing eight of our older carriers in the Service Life Extension Program (SLEP). SARATOGA, the first carrier to be SLEPed, just completed her first post-SLEP deployment in outstanding fashion. Prior to deploying, SARATOGA passed a comprehensive and rigorous engineering examination (OPPE) conducted by a special inspection team from the staff of the Commander in Chief, U.S. Atlantic Fleet and then achieved high grades on Operational Readiness (ORE) and Preventive Maintenance (PMS) inspections. After passing these important inspections, SARATOGA deployed to the Mediterranean for six months and performed brilliantly. After successful full power trials, SARATOGA had no boiler problems during 2400 steaming hours per boiler. Finally, the carrier's air wing averaged 78.3 percent Mission Capable during the last four months of deployment.

Lessons learned during SARATOGA's trailblazing SLEP are being applied to the FORRESTAL and INDEPENDENCE SLEP programs. SARATOGA's record this past year clearly reaffirms the wisdom of SLEP. The SLEP program extends the service life of our aircraft carriers from 30 to 45 years, provides a cost-effective alternative to new construction, and ensures that the National Command Authority will have the flexibility of a deployable 15 CVBG force.

Our program to maintain aircraft inventories with the proper mix and in the right numbers to support the growing Navy was sustained in 1984. A total of 281 new aircraft entered the fleet including the F-14A, F/A-18A, A-6E, EA-6B, E-2C, and P-3C. I am particularly pleased to report our experience with the F/A-18 Hornet now appearing in the fleet.

The F/A-18 is the first entirely new tactical aircraft to become operational with the U.S. Navy in the past twelve years. CONSTELLATION, the first carrier to receive F/A-18 aircraft, is operating today in the Pacific Ocean with twice the fleet air warfare capability she had before bringing aboard two Hornet Strike Fighter squadrons. Recent reports from CONSTELLATION have been extremely positive, with the Hornet displaying launching and boarding rates far exceeding all expectations. The F/A-18 is proving to be three times as reliable as any aircraft in the fleet, requiring only half the maintenance man hours of other Navy aircraft. As it approaches 100,000 cumulative flight hours, the F/A-18's safety record exceeds those of comparable Navy aircraft by 50 to 80 percent. The carriers CORAL SEA and MIDWAY will deploy with the F/A-18 in 1985 and 1986, respectively, further expanding the capability and flexibility of the fleet.

While the F/A-18 safety record has been impressive, this past year was a remarkably good one in aviation safety across the board. Indeed, 1984 was the safest year in naval aviation history. The number of aircraft mishaps in 1984 was 21 percent lower than in 1983. Fatalities resulting from aircraft mishaps were 23 percent lower in 1984 than in 1983. And, the cost of aircraft mishaps in 1984 was 39.0 percent below the 1983 level. We saved 21 lives, 19 aircraft, and over two hundred million dollars (\$200,000,000) compared with 1983.

I also am pleased with our progress in exploiting space to support the operations of the 600-ship Navy. Space assets, for example those providing reliable and clear real time communications among naval forces, are vitally important for everyday fleet operations. The first space shuttle deployment of communication satellites for the Navy -- LEASAT I and II -- occurred last year. Two Navy satellite development programs, Navy Remote Ocean Sensing System (N-ROSS) and Geodesy Satellite (GEOSAT), will provide highly accurate oceanographic and meteorological data for naval forces. Global Positioning System (GPS) terminals in ships, submarines, and aircraft, will provide significantly improved navigational data. The Naval Space Command has helped focus our space exploitation efforts and will support the Unified Space Command when established.

In October 1984, the Navy placed the first civilian oceanographer aboard the Space Shuttle. This flight demonstrated the role of manned space flight in advancing knowledge of the ocean and emphasized the need for an ocean satellite system. Manned space activity in oceanography and existing environmental satellites complement each other in important ways. Space oceanography efforts continually reveal new insights into the complexity of the ocean and phenomena we do not fully understand. In this sense, the ocean is becoming more opaque rather than more transparent. As we improve our understanding of the ocean, we enhance our ASW posture and reduce our own vulnerability. Space-based oceanography is revolutionizing ocean science research, providing unique insights into strategic and tactical exploitation of the complex ocean environment, and affirming the importance of the Navy's role in space.

Naval Reserve

I am pleased with the progress we have made in integrating the Naval Reserve into our total force. We have made significant headway on implementing the Total Force initiatives reported to Congress last year, and this year's report builds upon that solid base. Today, the Naval Reserve is an indispensable component of the Navy, and without its important contributions, we would not be able to fulfill our forward deployed, high OPTEMPO commitments.

Fully one-third of our ASW Patrol Aircraft (VP) squadrons are in the Reserve Force. Almost half of our reserve VP squadrons fly highly capable P-3 TACNAVMOD aircraft which allows Reserve flight crews to operate side by side with active squadrons. Similarly, our surface ASW efforts increasingly rely on contributions of Reserve Force ships. Today with KNOX (FF 1052) and OLIVER HAZARD PERRY (FPG 7) class frigates, Surface Reserve Force capability steadily grows. Both classes of ships, equipped with the latest in ASW equipment, prove their worth in both the Atlantic and Pacific theaters on a regular basis. In a like manner, our submarine forces also benefit from the contributions of Reserves in Intermediate Maintenance Activities, operational staffs, and command centers.

Because of the integral role of the Reserve in today's Navy, I want to highlight some initiatives, mention our progress, and point out plans for the future.

This past year witnessed a remarkable expansion in the size and capability of the Naval Reserve. Drilling Selected Reservists increased to more than 102,400 by the end of FY 84, with the number of Reservists on full time active duty for

Training and Administration of the Reserve (TAR) at more than 13,300.

Reserve personnel goals are indeed challenging and we have responded with programs designed to offer new and enhanced incentives and improve retention. The new Sea and Air Mariner, or SAM, program has been remarkably successful in providing junior enlisted personnel for the Selected Reserve. We recruited the full quota of 10,000 non-prior service personnel last fiscal year, and are well on our way to accessing the same number this year.

In the Naval Surface Reserve Force, two more FFG-7 class frigates will join the Naval Reserve in FY 85. When added to three FFG-7's and the six FF-1052's now in place, the Naval Reserve Frigate Force will increase to eleven. Six Craft of Opportunity (COOP) units also will join the Naval Reserve Force in FY 85. In FY 86 we will add four more FFG-7's, thereby passing the half-way mark in this ambitious program of transitioning 26 ASW ships to the Naval Reserve Force, 18 FFG-7s and eight 1052s. Six craft of opportunity (COOP) units and three ARS class ships will join the Naval Reserve Force in FY 86. Moreover, two new Seabee battalions as well as a Mobile Inshore Undersea Warfare (MIUW) unit will stand up in FY 86. This trend of NRF growth will continue beyond FY 89 as AO-177 class oilers, eight Mine Countermeasures Ships (MCM-1) and 17 Minesweeper Hunter (MSH-1) class ships transition to the Naval Reserve Force.

The Naval Air Reserve Force has embarked on an ambitious modernization program with both carrier airwings slated for transition to state-of-the-art aircraft: F-14, F/A-18, A-7E, and E-2C. The first Reserve E-2C squadron is now in place. VF-301 accepted its first F-14 aircraft in October 1984, and F/A-18 transition training for VFA-303 aircrew and maintenance personnel has been underway for over a year. In FY 86, VFA-303 will receive its own aircraft and be ready to mobilize. A-7E transition for one squadron in FY 85 and two squadrons in FY 86 will complete the programmed upgrade from the A-7B. Helicopter ASW support for Naval Reserve Force frigates will be provided by three HSL squadrons, one in San Diego, one standing up in FY 85 on the East Coast, and a third to be commissioned in FY 86. The Navy's only combat search and rescue squadron, Reserve Helicopter Composite Squadron NINE, based in San Diego, will evaluate the two UH-60 aircraft authorized by Congress last year. Seven more Reserve P-3 squadrons will receive TACNAVMOD upgrades, three in FY 85 and four in FY 86, to complete the program for all Reserve maritime patrol aircraft. Additionally, this year we retire our remaining C-118 aircraft and complete our airlift modernization by purchasing the final increment of used DC-9's for our Reserve Air Transport Squadron. I want to point out that in 1984 we initiated a new Reserve Squadrons Augment Unit (SAU) training program in which SAU aircrews fly the same A-6, F-14, and E-2C aircraft as their gaining squadrons. We plan to expand the SAU program to increase our total force readiness.

We intend to build the Naval Reserve Force into an even more capable part of the Navy team. We have taken measured steps to ensure that the Naval Reserve Force will have the trained people, modern ships and aircraft, and integrated logistics support to do the job upon mobilization. We are working toward optimum utilization of all our assets.

We have made important headway on Congressional directives to increase our reliance on Selected Reserve units to assume responsibilities traditionally assigned to active duty units. I am, however, concerned that we may not be able to gain maximum potential from the Reserve in the period prior to full scale

hostilities. For example, development of the concept of Maritime Prepositioned Ships has generated a potential need for early availability of cargo handling forces. These forces will support the U.S. Marine Corps in establishing Marine Amphibious Brigades ashore in overseas locations within ten days of an alert. This scenario could unfold in a pre-hostilities environment prior to the execution of any form of mobilization or call-up. Since active duty cargo handling forces are not sufficient to carry out this mission, early recall of Reserve cargo handlers may be necessary. Similar conditions exist in other military support functions which we have transferred from active to our Selected Reserve forces. Ways to overcome this impediment to our ability to respond must be assessed, and I solicit your help in shoring up this important area.

Strategic Sealift

The successful deployment and support of forces in executing military strategy in both war and peace depends heavily on Strategic Sealift. Increasing emphasis on mobility force readiness coupled with a precipitous decline in the U.S. Merchant Marine has brought the Strategic Sealift role into sharp focus. Recognizing the criticality of this role, in March 1984 the Navy formalized Strategic Sealift as a distinct Navy function. Congressional support of related programs has enabled us to move rapidly towards our sealift and cargo movement objectives. The Ready Reserve Force (RRF), which would be activated in time of crisis, is expanding toward the current goal of 61 dry cargo ships and 16 tankers. Next year, we will commence our Sealift Enhancement Features (SEF) program to increase the military utility of commercial merchant ships.

The completion of several ship conversion programs in FY 86 will dramatically increase our mobility capability. The last of eight Fast Sealift Ships (SL-7) will deliver, providing a sealift capability able to deliver combat equipment at speeds in excess of 30 knots. They will be strategically berthed near designated Army embarkation ports, ready for full operational service within four days of notification.

The last of thirteen Maritime Prepositioning Ships (MPS) will deliver and form the third MPS squadron. This squadron will provide forward deployment of equipment for three Marine Amphibious Brigades and combat support for 30 days, thereby expanding the rapid global response capability of the Marine Corps. These MPS squadrons will be prepositioned in the Eastern Atlantic, Western Pacific, and Indian Ocean. This concept combines the responsiveness of airlifted troops with an equally responsive sealift delivery of prepositioned combat equipment as a major improvement in our ability to form a rapid credible forward defense. Funding of the second aviation maintenance support ship (TAVB) this year will augment the MPS squadron deployments. We also will see the delivery of the first hospital ship (TAH) in 1986, providing much needed medical care.

As demonstrated in Exercise JLOTS II during the fall of 1984, the auxiliary crane ship has proven to be an indispensable asset to meet cargo offload and discharge requirements, either through damaged port facilities or directly over the shore. This fiscal year we continue our efforts to complete an eleven ship program by the end of FY 88.

We will continue the Depot Ship Prepositioning Program (formerly NTPF) which provides a credible deployment potential for Southwest Asia through afloat prepositioning of Army and Air Force equipment and ammunition along with common user POL stocks.

Delivery capability alone will not do the job. Amphibious offload systems and equipment remain essential to discharge ships and transport combat equipment and sustaining support ashore. The sealift program is structured to provide that requisite balance. In the summer of 1984, the Navy signed an agreement with the Army to enhance joint inter-service responsibility in the development, acquisition, and use of Army/Navy cargo offload and discharge systems. The Army Chief of Staff and I endorse this cooperative logistic effort and are enthusiastic about the benefits to be gained. Our objective is to achieve a balanced program and ensure that strategic sealift ships, their cargo offload systems and supporting logistic systems provide a smooth flow of materials to support combat forces worldwide.

Research, Development, Test and Evaluation (RDT&E)

Challenges of the current and future world environment confirm that we will need highly capable ships, aircraft, and systems to deal with the highly capable threats we face. It has long been basic U.S. policy that we cannot and will not match the Soviet numerical advantage, but will instead offset any numerical disadvantage with superior qualitative performance and a technological edge. Our research and development programs are the foundation of our ability to maintain this qualitative edge.

Last year, I raised with you several concerns about our research and development posture, particularly the adverse effects of decreased funding coupled with the redirection of a large number of line items. Better dialogue which ensued has helped to improve this situation. I look forward to your continued support for a vigorous research and development program with modest but essential growth.

Research and development in the Navy is not isolated from warfighting needs; either today's or tomorrow's. Navy research and development is tightly coupled with today's maritime strategy and guided by our on-going long range planning efforts.

In evaluating the relevancy and effectiveness of our research and development program, we utilize not only in-house expertise but also solicit ideas from knowledgeable people outside the Navy. My CNO Executive Panel Advisory Committee (CEP) reviews key strategy and development programs. We also work with the Naval Research Advisory Committee (NRAC) and the Naval Studies Board (NSB) of the National Academy of Sciences, both consisting of highly qualified and respected members from the science and technology communities. Their recommendations provide unique insights into naval problems and lead to changes in our development plans. We also rely on the advice of the Navy laboratories and U.S. industry for development of systems which will provide the future fleet with the means to execute its mission. Only proposed systems that offer the greatest effectiveness while remaining affordable are accepted and incorporated.

I am particularly pleased with the Test and Evaluation part of our RDT&E efforts, and I want to highlight the achievements of the Navy's Operational, Test and Evaluation Force (OPTEVFOR).

During the past two years, OPTEVFOR has published 142 Operational, Test, and Evaluation (OT&E) format project reports, 45 OT&E quick look reports, and 28 operational tactics guides. Over this period, OPTEVFOR recommended fleet introduction of 67 percent of the systems completing OT&E. OPTEVFOR recommended against 19 percent of the systems and was unable to make any recommendations without additional OT&E in fourteen percent of the cases. A testing organization that refuses to approve a full third of the systems it reviews builds a reputation. The Navy's

OPTEVFOR is known for its objectivity, independence, and rigor. I assure OPTEVFOR's independence, as it operates under my direct command with no intervening layers, reporting all operational test and evaluation results directly to me and the Secretary of the Navy. OPTEVFOR tries to defeat each new system on its own terms and our program managers view OPTEVFOR as an adversary. Just as in other areas in our society, this adversarial relationship is healthy and constructive. It ensures that systems operate properly before they enter the fleet.

I do not want to imply that we have solved all the problems in the OT&E process. Clearly, we have not. For example, we must improve the development of operational requirements and performance thresholds. Too frequently these are poorly defined or written as technical vice operational measures. It is indeed difficult to develop substantive and defensible operational requirements and performance thresholds. Nevertheless, they are critical to the T&E process and we are making real progress in our efforts to rectify this problem.

Overall, I think the OT&E process is working well in the Navy. We work closely with the newly established Operational Test and Evaluation Office in OSD to provide appropriate operational test and evaluation data required by Congress. I look forward to further improvement with your continuing support.

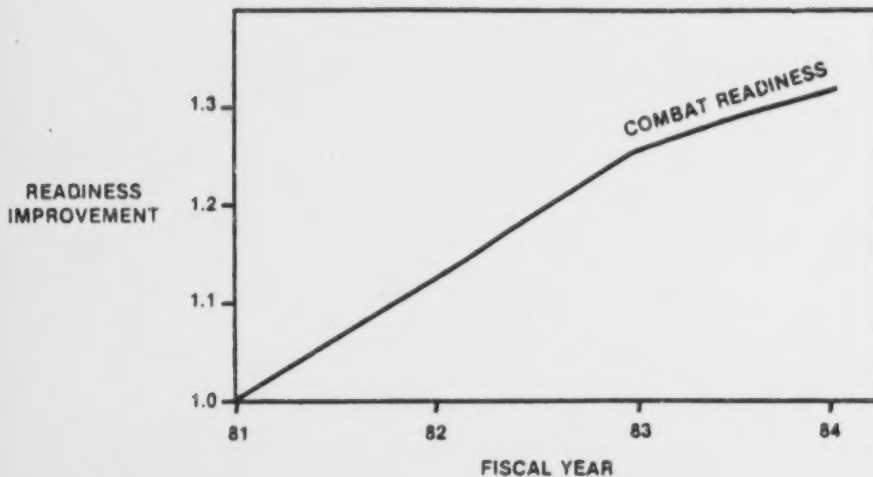
THE FY 86 BUDGET

Budget preparation is far from an abstract accounting exercise. Indeed, the most telling policy statement of any organization may be its annual budget. A budget clearly

FIGURE FIVE

OVERALL READINESS TREND

IMPROVED READINESS SHIPS & AIRCRAFT SQUADRONS



highlights priorities and needs, and this year's Navy budget request is no exception.

The foundation of the Navy's budget is the maritime strategy; that is, the role of maritime forces in the national military strategy. The maritime strategy follows from and supports the goals and guidance set forth in SECDEF and JCS documents, and describes the employment of naval forces in a global war against the Soviet Union. While this global war case is not the most likely contingency we face, it is the most demanding, and forms the basis for our budget preparation. To these requirements, however, we must add the considerable resources needed for the operations of a forward-deployed Navy, maintaining deterrence in this era of violent peace. You will note that more than half of the FY 86 budget request is slated for readiness.

The Navy is requesting a Total Obligational Authority (TOA) of \$95.5 billion for FY 86. This represents 4.5 percent real growth over our FY 85 funding and is, we think, the minimal level of growth adequate to ensure a sound balance among the four pillars of readiness, sustainability, modernization, and force structure.

The first and largest of the pillars is readiness, comprising over 50 percent of the budget request. It contains the funding required to operate and maintain the fleet on a day-to-day basis, e.g., money for ship and aircraft fuel, salaries for our people, maintenance and repair of ships and aircraft, training, and support. In short, the readiness pillar is the day-to-day cost of operating the Navy and keeping it ready to fight. The second pillar is sustainability, and it represents about ten percent of the requested funds. These funds cover the cost of the Naval Reserve, stocks of weapons, and war reserve material. The modernization pillar accounts for approximately 20 percent of the request and includes all Navy Research, Development, Test and Evaluation (RDT&E), fleet modernization or SHIPALTS, and aircraft and weapons modifications. The fourth pillar is force structure, and it also represents about 20 percent of the program. Included here are the costs of new ships and aircraft and the costs of bases and support facilities required to maintain and expand the size of the force. The growth in each of the four pillars represents a relatively uniform extension of the FY 85 budget and is consistent with our estimate of requirements based on our understanding of national security policy and objectives.

I now would like to review the four pillars in more detail, highlighting our progress over the past few years, and noting some present and future objectives.

Readiness

We have attained impressive improvements in warfighting readiness. This assessment is not based on a seat of the pants judgment; although were you to ask virtually any sailor or naval officer in the fleet, he or she would certainly affirm this judgement. Readiness of naval forces is demonstrable through objective measurements.

Every ship and aircraft squadron in the Navy is assigned mission areas which require specific capabilities. As an example, Navy destroyers must be prepared for Anti-Submarine Warfare (ASW), Anti-Aircraft Warfare (AAW), Anti-Surface Warfare (ASUW), etc. We assess each destroyer's readiness to perform these missions and its overall capability to perform all assigned

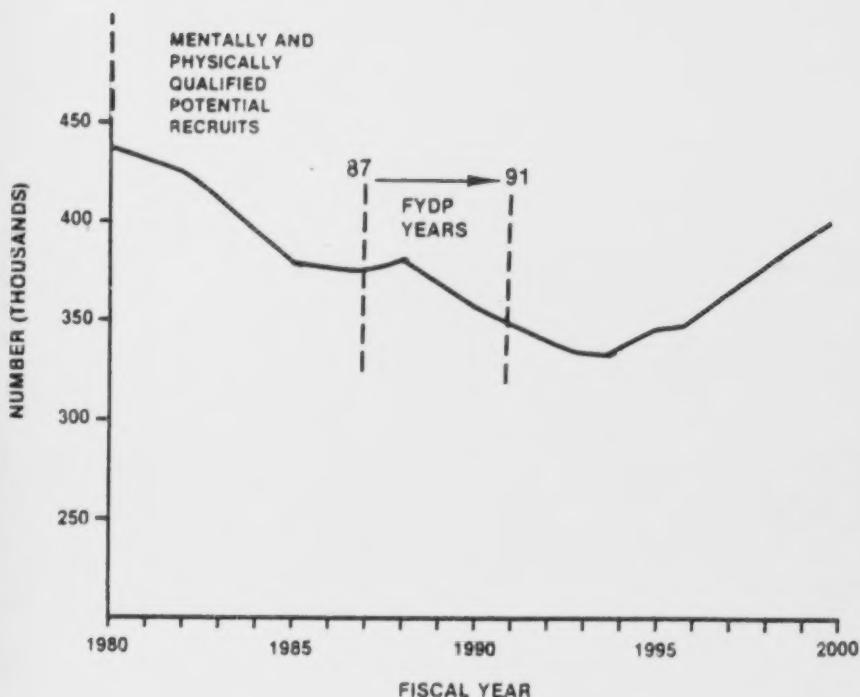
mission areas. Readiness within each mission area is further divided by categories, including personnel, equipment, training, and supply support. For example, the ship's readiness to perform ASW will be affected by the number and proficiency of its people. Further, the ship's readiness to perform AAW will be affected by the material condition of its radars and communications equipment. Training is a key component of readiness with rigorous requirements for individual sailors as well as teams which operate together. We gauge training readiness based on amount of training accomplished and when completed. Lastly, without adequate supply of ammunition and spare parts to repair equipment, readiness would be degraded.

At least once per month, or as changes in status occur, each

FIGURE SIX

QUALIFIED NPS MALE POTENTIAL RECRUITS

Source: U.S. Census Bureau



ship and aircraft squadron submits a report of its personnel, material, training, and supply support readiness in assigned mission areas. This reporting procedure has been in place and adhered to for more than a decade.

Accordingly, I report with full confidence, based on tried and tested empirical data, that we have witnessed an impressive improvement in Navy readiness since 1981, as shown in Figure Five. The data not only provide commanders in the field with tools to gauge the readiness of their forces, but also provide

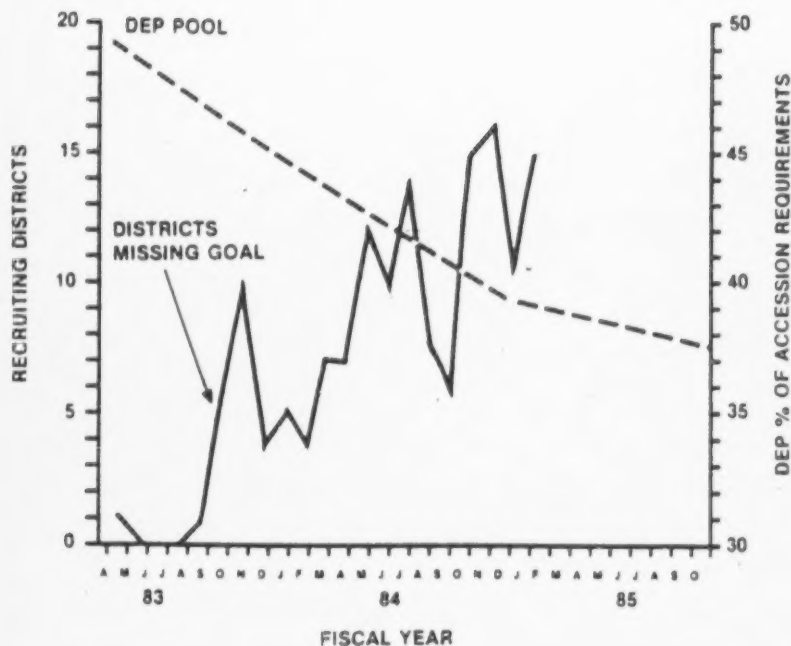
the OPNAV staff with information to plan and budget for the proper allocation of funds; it helps us establish priorities and match funding to priorities.

Personnel

As I have indicated, nothing is more central to readiness and overall Navy posture than our people. Well established measurements show that personnel readiness in the Navy increased substantially between 1981 and 1984, and is without question the foundation of our overall readiness improvement. To sustain this progress, the FY 86 personnel request supports a measured

FIGURE SEVEN

RECRUITING DISTRICTS MISSING NEW CONTRACT GOALS AND DEP POOL REDUCTIONS



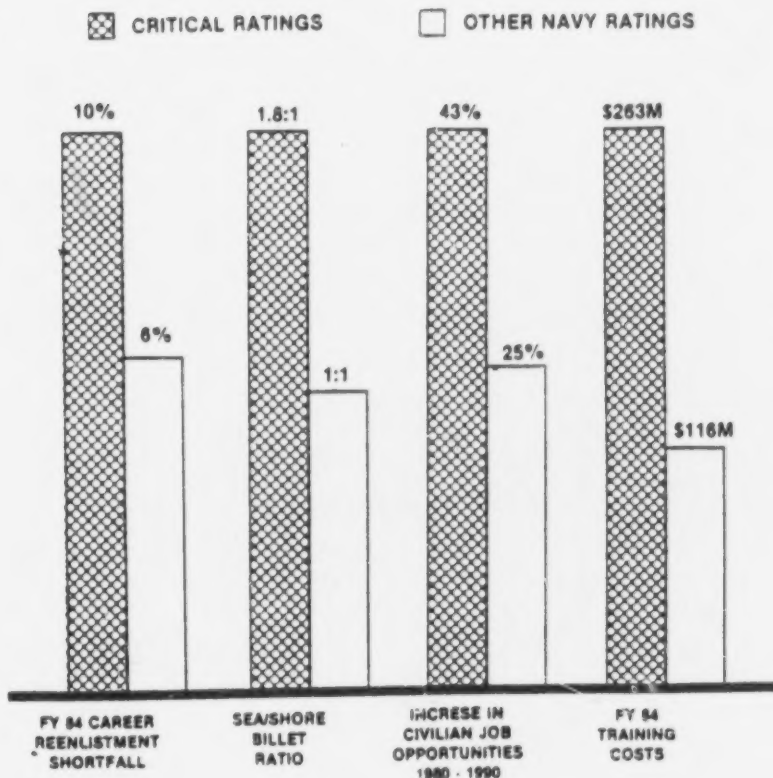
increase in manpower to allow us to man today's force, to support it adequately with shorebased maintenance and support facilities, and to build the skill and experience levels needed for the near future. We need balanced increases in the total force including an increase of 15,000 in the active force for a total of 586,300. Reserve force structure improvements necessitate increases for average strength of all Reserve personnel in a paid status of 10,500 to reach a total of 134,400. Civilian personnel spaces will total 318,700, an increase of 1,400.

These marginal increases are key elements in supporting future force levels. The active strength increase of 2.8 percent

over FY 85 is small in relative manpower terms, and small in dollar costs when compared to initial force level investment costs. As I pointed out earlier, previous Congressionally imposed end-strength constraints, (Figure Four) have created significant difficulties in properly manning shore activities to support the operating force, and sea-intensive ratings are forced to stay at sea longer. We requested an end-strength growth of 28,000 regular and active duty reserve personnel in FY 83, Congress approved only 19,100 growth. For FY 84 we requested an end-strength growth of 11,900, Congress approved 4,500. And, for FY 85 we requested a growth of 10,700, Congress approved 6,500. The end-strength growth permitted by Congress over the past three years has been adequate to support only manpower required to provide initial crews for new ships as they join the fleet and to correct manning deficiencies in existing ships and aircraft squadrons. If this trend continues in FY 86 and beyond, the Navy will be 34,000 people below total programmed objective in FY 89, creating a critical inventory shortfall and robbing us of the base from which to promote required numbers of petty officers. This inevitably will cause serious readiness degradations much as we faced in the 1970s. There is no alternative unless adequate end-strength growth is authorized.

FIGURE EIGHT

COMPARISON OF RATINGS CRITICAL TO READINESS WITH ALL OTHER NAVY RATINGS



As I noted earlier, 1984 was another good year in recruiting. We achieved recruiting goals and 93 percent of the non-prior service recruits had high school diplomas. However, one must balance this success with awareness of the declining pool of males in the 17-1/2 - 21 age group, as you can see in Figure Six. Indeed, as in the other Services, the Navy began to see signs of a more difficult recruiting environment in 1984. Two early indicators of our recruiting program's capability to meet programmed accessions are the ability of our recruiting districts to obtain new contract objectives and the status of the Delayed Entry Program (DEP), our bank of prospective sailors. Figure Seven shows a serious depletion of this bank because of the increasing number of recruiting districts unable to meet new contract objectives. At the end of FY 84, the formerly healthy DEP declined to the 40 percent level, and the downward trend continues. Experience during the 1970s shows that when the DEP reaches the 33 percent point, recruiters are pressured to meet current accession demands and recruit quality plummets. While there are other signs pointing to recruiting difficulties, suffice to say that with the manpower pool declining and the economy growing, we face an increasing challenge to recruit sufficient numbers of needed quality personnel. These unmistakable signs make the requested recruiting and advertising budget especially critical if we are to keep pace with changing manpower market conditions.

Of course, retention is just as important as recruiting in ensuring a force of adequately trained personnel. It is impossible for me to overemphasize the importance of the Selective Reenlistment Bonus (SRB) and other special pays in our retention program. The cost of these programs is insignificant in comparison to the payoff they provide in creating the proper climate for retention of petty officers with vital skills and experience. Figure Eight provides a particularly telling picture of the need to protect our mission-critical ratings. You will note that in comparison with their non-critical skill shipmates, these people fail to meet career force objectives at twice the rate; they stay at sea 80 percent more of the time; they are twice as high in demand in the private sector; and they cost twice as much to train. The Selective Reenlistment Bonus is an exceptionally effective management tool to correct shortages in vital skill ratings as they develop without waiting for the lengthy review process involved in approving new funding programs or management authority. Management flexibility, proven results in retention and enhanced material readiness, and the relatively small cost of the Selective Reenlistment Bonus make it a very cost-effective program and worthy of Congressional support. Past Congressional action raising the SRB ceiling to \$30,000 has improved retention in those mission essential ratings receiving the enhanced bonuses. However, the Congressional restriction that no more than ten percent of bonuses exceed \$20,000 will prevent us from attaining the full potential benefit from this important retention tool. In this connection, nuclear ratings which must have the new top dollar bonuses constitute 8-1/2 percent of the 10 percent limit, thereby providing little flexibility for other critical skills. I, therefore, urge you to remove the SRB ceiling restrictions or at least change the constraint from 10 to 25 percent.

Our most serious manpower problem is the growing shortage of experienced nuclear qualified officers (Lieutenant Commander through Captain). These officers are required for at sea Department Heads, Executive Officers, and Commanding Officers; and for key shore billets directly supporting fleet readiness and nuclear propulsion plant safety. With inventory 18 percent short of requirements at the end of FY 84, sea billets are kept filled by extending sea tour lengths and assigning most officers back-

to-back sea tours. Some critical shore billets are not manned. Unless corrected, the experienced nuclear officer shortage will grow to 21 percent by FY 87.

Of equal concern is the critical inventory shortfall of experienced post-command submarine officers, which is projected to grow from four percent in FY 84 to 22 percent in FY 90. These officers are essential for manning major sea command billets (TRIDENT submarines, submarine tenders, and submarine squadrons). Additionally, their expertise is indispensable in key shore billets involving submarine force operation and safety, strategic planning, tactical development, and program management. We are submitting urgently needed legislative proposals, which modify Nuclear Officer Incentive Pay and Submarine Duty Incentive Pay, to target these essential experienced officers.

A comparison of officer retention rates for 1983 and 1984 is shown in Table Two. Pilot retention dropped two percent. Nuclear submarine retention rose only one percent, 13 percent below required retention for that community. Unfortunately, we have begun to see the first indications of a reversal of the very positive trend in officer retention begun in 1981 by Congressional programs to restore the purchasing power of military pay. The number of officers submitting letters of resignation in 1984 stating a request to resign in 1985 rose dramatically (Pilots: 188 to 328; Nuclear Submariners: 211 to 279; Surface Officers: 385 to 459). Reasons for the recent increases in officer resignations are many: eroding pay value, improving economy, lower rates of unemployment, and increased hiring by civilian industries.

To halt these negative trends in critical officer skill inventories, I urgently request your support for our proposals to enhance Nuclear Officer Incentive Pay, extend authority for Aviation Officer Continuation Pay, and improve targeting of Submarine Duty Incentive Pay.

Because of capped and delayed pay raises in FY 84 and FY 85, all naval personnel, not just the officer communities discussed above, have seen the purchasing power of their income erode. As I pointed out earlier, young Americans today demand the opportunity for upward mobility and economic advancement; if they do not find it in the Armed Forces, they will seek it elsewhere. We have recently begun to see the first signs of their seeking it elsewhere. To stem this trend before it fully develops, I most strongly encourage the Congress to support the DOD military pay raise request.

In addition to ensuring that military basic pay remains comparable with the private sector, I also solicit your support for the personnel related initiatives in the FY 86 budget which include: adequate travel and transportation reimbursements, provision of dependent dental care, amendment of the Defense Officer Personnel Management Act (DOPMA), and adequate funding of the Permanent Change of Station (PCS) account.

Additionally, I must express my concern over an IRS proposal that would, in effect, tax the presently non-taxable housing allowance of military personnel who live in homes they own. Indeed, such an action would be counter to a 1925 U.S. Court of Claims decision exempting military allowances from taxation and contrary to the spirit and letter of Congressional military compensation acts dating from 1965 which incorporate income tax advantages as a part of military pay levels. The impact of adopting the IRS tax policy would be that about 300,000 military homeowners would suffer a three to seven percent pay cut. Such a policy, if adopted, would have an immediate and drastic impact on

our retention efforts, and, hence, our readiness. I strongly solicit your support to maintain the existing and long-standing tax policy regarding military homeowners. It is fundamental to the military total compensation system and should never be addressed in isolation as some propose.

Military retirement benefits are another particularly important tool which supports our retention efforts and help in recruiting. In survey after survey of Navy men and women, retirement benefits are mentioned as figuring prominently in the decision to reenlist. Conversely, many of our sailors who decide not to reenlist cite uncertainty over the future of retirement benefits as a factor in their decision to leave the Navy. I cannot emphasize strongly enough the importance of the military retirement program. I encourage you to make it clear early in the Congressional year that there will be no changes to that system that would take away benefits earned in good faith.

TABLE TWO
OFFICER RETENTION

	<u>FY 82</u>		
	<u>ELIG TO RETAIN</u>	<u>RETENTION GOAL</u>	<u>ACTUAL RETAINED</u>
SURFACE WARFARE	1032	49%	440 (43%)
PILOT	919	60%	454 (49%)
NAVAL FLIGHT OFFICER	405	68%	295 (73%)
NUCLEAR SUBMARINE	319	63%	123 (39%)
GENERAL UNRESTRICTED	212	45%	94 (44%)
LINE			

	<u>FY 83</u>		
	<u>ELIG TO RETAIN</u>	<u>RETENTION GOAL</u>	<u>ACTUAL RETAINED</u>
SURFACE WARFARE	1065	48%	473 (44%)
PILOT	777	60%	450 (58%)
NAVAL FLIGHT OFFICER	281	73%	207 (74%)
NUCLEAR SUBMARINE	292	57%	135 (46%)
GENERAL UNRESTRICTED	251	54%	151 (60%)
LINE			

	<u>FY 84</u>		
	<u>ELIG TO RETAIN</u>	<u>RETENTION GOAL</u>	<u>ACTUAL RETAINED</u>
SURFACE WARFARE	1164	52%	583 (50%)
PILOT	647	60%	364 (56%)
NAVAL FLIGHT OFFICER	145	79%	117 (81%)
NUCLEAR SUBMARINE	343	60%	161 (47%)
GENERAL UNRESTRICTED	294	56%	172 (59%)
LINE			

	<u>FY 85</u>		
	<u>ELIG TO RETAIN</u>	<u>RETENTION GOAL</u>	<u>PROJECTED RETENTION</u>
SURFACE WARFARE	1160	49%	549 (47%)
PILOT	647	60%	343 (53%)
NAVAL FLIGHT OFFICER	389	75%	292 (75%)
NUCLEAR SUBMARINE	370	55%	178 (48%)
GENERAL UNRESTRICTED	356	60%	220 (62%)
LINE			

The contributions of civilians to readiness is crucial. The removal of civilian end-strength controls by Congress last year provides us the opportunity to be more efficient and economical in managing our civilian manpower resources, over half of which are dedicated to shore support efforts and directly related to our operational readiness posture. This action enhances our ability to respond to unexpected workload demands; allows us to devote more attention to employee training, thereby contributing to higher retention of skilled personnel; and allows us to avoid turbulent and costly end-of-year terminations and rehiring procedures. I urge you to extend the waiver of civilian manpower controls. I also encourage you to allow us to target salaries to attract civilians with special education and skills, as we continue to have difficulty recruiting top quality civilian engineers. We need an alternative personnel management system for scientific and technical personnel in the Federal Government: one that will simplify the federal personnel system and provide the flexibility we need to respond to changing salary demands. This approach has been demonstrated at two of our Navy Laboratories with considerable success. The substitution of broad pay bands for the present narrowly articulated civilian pay grades represents an important improvement in effectiveness and is worthy of your consideration.

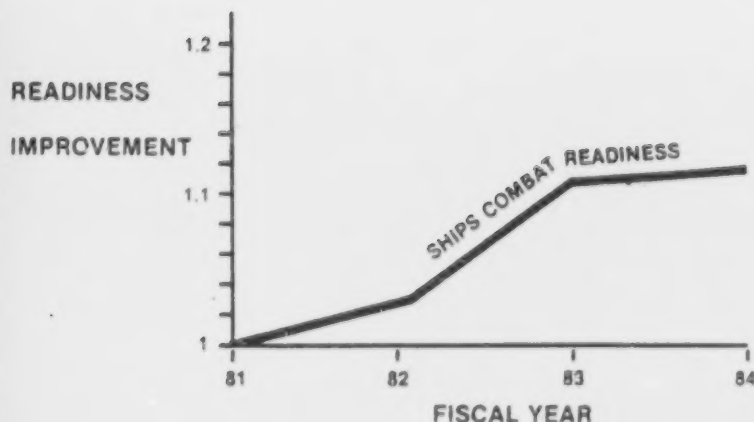
There is considerable speculation about changes in the civil service retirement system. Constructive changes are needed to put the system on a sound footing. We need your support to assure our civilians that we are fair employers and that changes will be equitable to those who have been faithful and competent employees of long standing.

Material

Material readiness complements personnel readiness in overall calculations of mission readiness. If equipment is not operating properly, the best efforts of our personnel will be of

FIGURE NINE

SHIP MATERIAL READINESS IMPROVEMENT



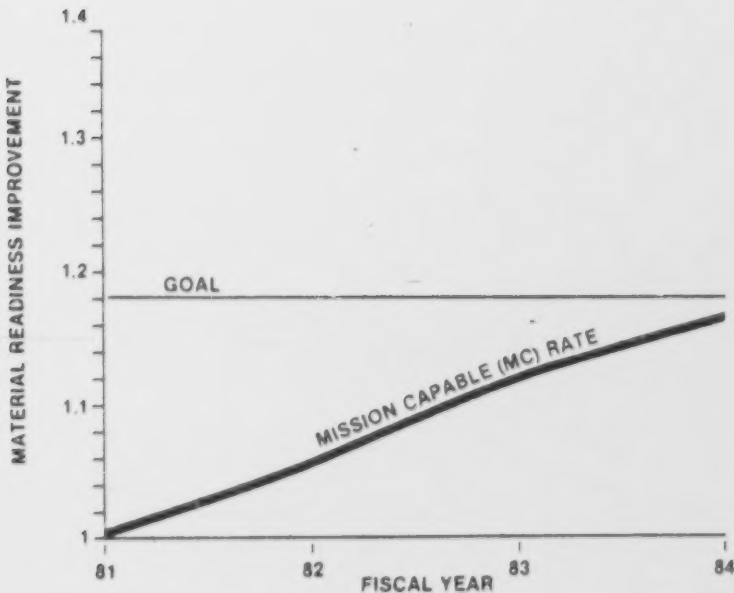
little consequence. Maintaining equipment in good material condition is a many faceted program including adequate supplies of the right parts, periodic overhauls and maintenance availability periods. In that respect, a ship or aircraft is just like your automobile; if you maintain it properly and at the right intervals, the engine starts when you turn the ignition key.

We have made a concerted effort to increase funding in support of material readiness. In addition to the dramatic increases in ship combat readiness shown in Figure Nine, aircraft mission capable rates, indicators which measure the level of personnel manning and training as well as funding for spare parts and equipment, continued to increase during the past year. As shown in Figure Ten, we are closing the gap on an important milestone--achievement of the long-standing force wide goal of 70 percent mission-capable aircraft. Indeed, we reached the 67 percent level last year and project attainment of the 70 percent

FIGURE TEN

AIRCRAFT SQUADRON

MATERIAL READINESS IMPROVEMENTS

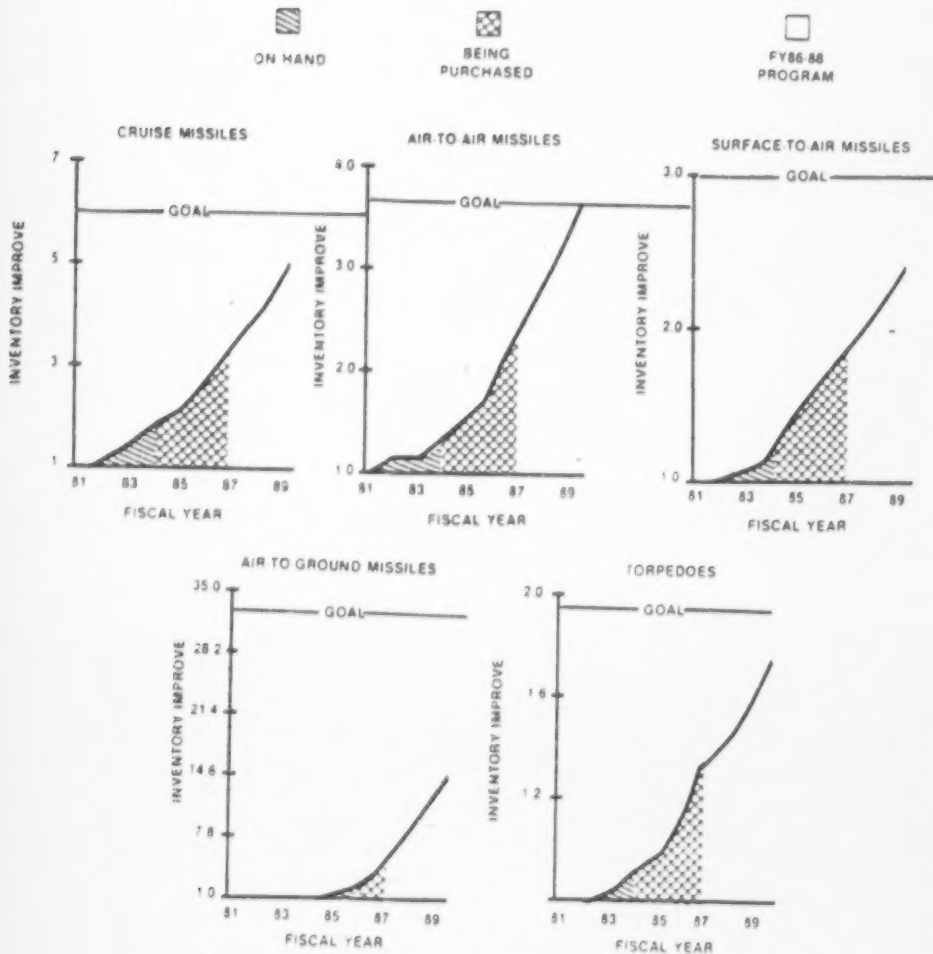


goal this year.

The FY 86 budget request continues to emphasize improvement in all aspects of material readiness. Funding in the ship overhaul program has been increased to provide for the overhaul of 35 active and six reserve ships. Adequate Congressional funding to meet overhaul requirements and as well as our initiatives to extend the operating period between overhauls for our surface ships and submarines have eliminated the large backlogs we experienced in the past. Close, continual monitoring of equipment material readiness permits us to overhaul selected systems of ships during regular maintenance availabilities (two-three months) without assigning the ship to a shipyard for a year or longer. Our experience to date with nuclear attack submarines

FIGURE ELEVEN

TRENDS IN WEAPONS AT SEA



in this program is illustrative. These submarines were overhauled every 43 months; we now have extended that period to 84 months. In so doing, we saved approximately one billion dollars in maintenance cost and gained five percent more operational availability.

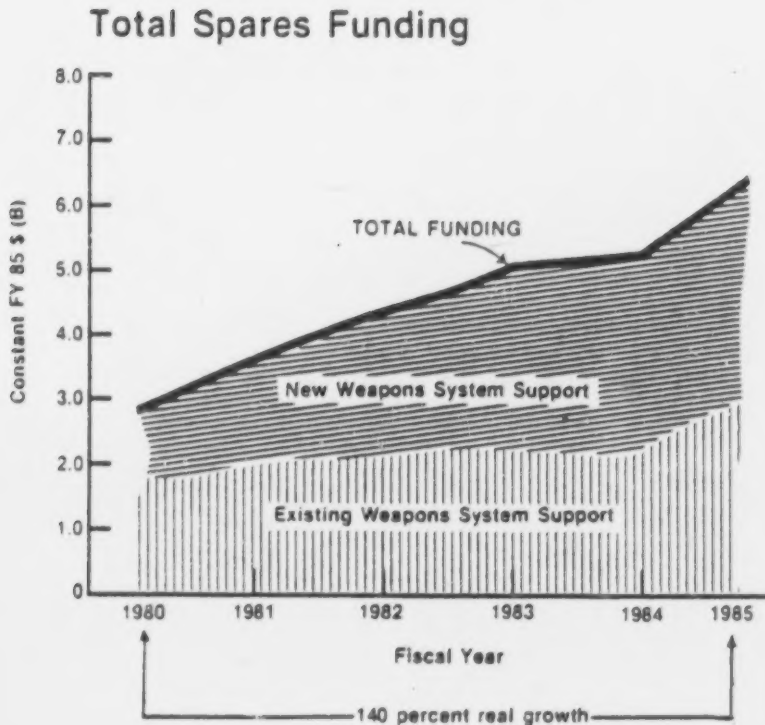
We have also taken action to control the cost of overhauls. We have developed standard work scopes for submarines which will be used to compare performance and promote competition between shipyards. Already several inefficient practices have been identified and corrected. I expect these initiatives to improve submarine overhaul and maintenance and help control cost.

We initiated several programs last year to improve material readiness and reduce costs in the aviation maintenance community. Let me mention one effort we are particularly pleased with: Aircraft Service Period Adjustment Program.

With respect to the Aircraft Service Period Adjustment (ASPA) Program, we share the concern expressed by previous Congresses that airframe rework performed on a calendar basis did

FIGURE TWELVE

TOTAL SPARES FUNDING



not adequately account for the actual condition of the aircraft. Accordingly, beginning 1 January 1984, we initiated several management changes. Almost every aircraft is inspected near the end of its operational service period. If the aircraft is in satisfactory condition, the rework requirement is deferred one year. At the end of the year, the aircraft is reinspected and reworked if not in satisfactory condition. The aircraft is grounded if insufficient funds are available for rework.

Experience with the ASPA program has been very positive with 209 aircraft deferred to date. Funded Standard Depot Level Maintenance slots were utilized to rework aircraft currently in the extension backlog. As a result, dollars were expended on aircraft most urgently in need of maintenance. If projections concerning deferral probabilities prove correct, the extension backlog will be eliminated by the end of FY 85.

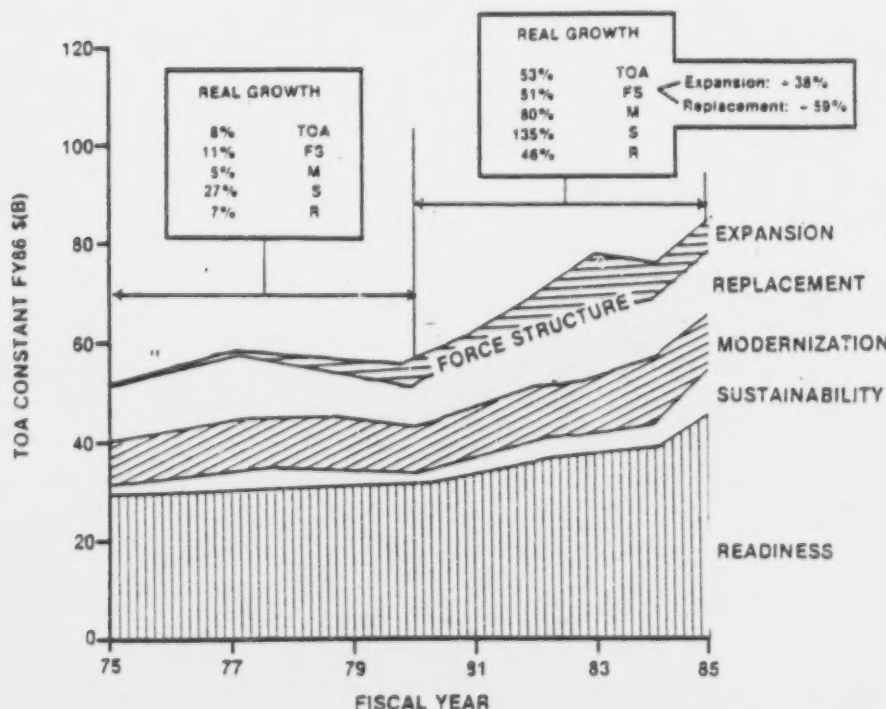
Sustainability

As noted earlier, sustainability represents the "staying power" of a force. If readiness reflects the capability of the

FIGURE THIRTEEN

NAVY TOA TREND

FOUR PILLARS TRENDS NAVY TOA



force to fight at the outset of a conflict, sustainability is the force's capability to continue fighting until objectives are met and favorable peace terms are attained.

Reflecting fiscal and managerial emphasis, we have achieved impressive improvements in sustainability since 1981. Again, just in the case of readiness, sustainability improvements are based on empirical measurements, not subjective judgments. Some of the criteria used to measure sustainability are inventories of threat ordnance, number of days of Level of Effort (LOE) ordnance, amount of spare parts, number and readiness of Reserves, number of fleet hospital beds, etc. Figure Eleven, normalized to present our progress since 1981, shows dramatic increases in cruise missiles, air-to-air missiles, surface-to-air missiles, air-to-ground missiles, and torpedoes. Figure Twelve shows the emphasis we have placed on funding for spare parts.

We have made steady headway toward a sufficient level of in-theater medical health care and support; an important factor in sustainability. For example, in FY 83 we started procurement of 1500 fleet hospital beds and we had no hospital ships. By the end of FY 86, we will have begun procurement of over 5,000 fleet hospital beds. Our first hospital ship, USNS MERCY, will be commissioned next year and the second hospital ship, USNS COMFORT, will be commissioned in FY 87. We intend to continue the emphasis on in-theater health care and support including manpower, training, and military construction. We look forward to your continued support.

In 1980, sustainability accounted for just barely four percent of the Navy budget. That figure has more than doubled, with sustainability representing nearly ten percent of the FY 86 budget request. Looked at another way, sustainability funding between 1980 and 1986 will increase by 135 percent (real growth) while overall Navy TOA will increase by approximately 53 percent. As indicated in Figure Thirteen, sustainability funding has grown more than any of the other budget pillars between 1980 and 1986.

I particularly want to highlight the FY 86 request for the Navy Stock Fund War Reserve program. A portion of this request, \$59 million, will be used for prepositioned material for the Reserve Mobile Construction Force. The major increase of \$133 million for sustainability reflects Fleet Commanders' in Chief requests and achieves nearly full funding for the Department of Defense sustainability objective.

I must, however, report that cross-decking of some categories of weapons to complete load-outs for deploying forces was necessary in 1984. While the problem still exists, the cross-decking requirement has declined substantially and continued improvement is projected. Indeed, by 1989 the cross-decking requirement will be eliminated for combatants. This improvement reflects the fact that we have programmed approximately 60 percent of sustainability dollars for the purchase of ordnance.

Because funding for Reserve forces is a component of the sustainability pillar, I want to highlight several important programs in the FY 86 budget request which are essential in sustaining and further improving the effectiveness of the Naval Reserve.

As I mentioned earlier, the Sea and Air Mariner (SAM) program has been very successful in attracting non-prior service junior enlisted personnel for the Selected Reserves. An important tool for recruiting non-prior service critical skill personnel is the enlistment bonus and educational assistance

program, the authority for which expires at the end of this fiscal year. The request for extension of that authority, at an increased level, is a high priority in the FY 86 program. The budget request also contains provisions for affiliation and reenlistment bonuses for recruiting and retaining prior service personnel for the Selected Reserve. In addition, we have proposed a unit incentive pay package to recognize the extra contribution made by Selected Reserve crew members of Naval Reserve Force ships. The TAR community has taken on new importance in the expanded Naval Reserve Force. To attract and retain enlisted TARs with critical skills, we are requesting authority for a TAR Selective Reenlistment Bonus.

Modernization

Modernization, approximately 20 percent of the FY-86 budget request, encompasses Research, Development, Test, and Evaluation (RDT&E), SHIPALTS, and aircraft and weapons modifications. A balanced program must allocate sufficient funding to the modernization pillar to ensure that the Navy of the future will remain capable of dealing with the projected threat. Modernization is second only to sustainability in the rate of real growth between 1980 and 1986 in the Navy budget. During this period, modernization funding increases at a rate of 80 percent. Indeed, the most significant real program growth in the FY 86 request over FY 85 occurs in RDT&E.

Why have we placed this type of emphasis on modernization? The answer is clear. While we have the most capable Navy in the world, we must ensure that it keeps pace with advances in technology, or we soon will fall behind. Our principal and most threatening potential adversary, the Soviet Union, has a decided numerical advantage. The Soviet submarine threat, in particular, is dramatically increasing in numbers and quietness. We offset that quantitative disadvantage by qualitative superiority. Qualitative superiority is made possible only through continuing efforts at fleet modernization.

Research and development provides the foundation for fleet modernization. Successful results of many research and development programs are now entering the fleet and improving capability across the board. The FY 86 budget request continues to stress research and development and builds on Congressional support of these efforts in the FY 85 budget. The FY 86 budget request provides 4.5 percent real growth over FY 85 in the vital technology base area. The technology base program has been adjusted to allow eight percent real growth per year after FY 86. Strategic programs in our RDT&E request include TRIDENT II, while key tactical programs are JVB, A-6 Upgrade, F-14D, SUBACS, SSN-21, DDG-51, New Threat Upgrade, MK 50 Advanced Lightweight Torpedo, Surface Ship Torpedo Defense, and the Five Inch Rolling Airframe Missile.

The new design SSN, SSN-21, represents a significant improvement in submarine tactical capabilities, including optimized quieting, higher tactical speed, better sensors, more effective combat systems, greater firepower and an Arctic warfare capability. These programs are absolutely essential to ensuring our continued qualitative superiority over the Soviets.

Several other programs in the FY-86 modernization request hold special significance. We plan to install the Vertical Launch System (VLS) in the TICONDEROGA class cruisers beginning with the sixth ship and in all ARLEIGH BURKE class destroyers. Additionally, we have programmed funds to place VLS in DD-963, and SSN-688 class ships. The importance of VLS is hard to overemphasize. The flexibility of weapons load-out which VLS

provides and the attendant reduction in launcher system maintenance requirements is extraordinary.

The MK-48 Advanced Capabilities (ADCAP) Torpedo program remains essential to ensure the continuation of our key anti-submarine warfare advantage over a vastly and rapidly improving Soviet submarine threat. Equally important in maintaining and extending our ASW advantage are the SH-3H carrier helicopter replacement, SSN-688 improvement, SQS-53B/C sonar and the LAMPS MK III ASW helicopter. Vigorous research initiatives are underway to ensure that we retain our superiority in ASW.

Installation of New Threat Upgrade (NTU) in selected pre-AEGIS TERRIER and TARTAR guided missile ships will provide critically needed near-term battle group assets to counter air and cruise missile threats as we transition to AEGIS-equipped TICONDEROGA class cruisers and ARLEIGH BURKE class destroyers. The New Threat Upgrade system improves surveillance and target tracking performance and provides SM-2 Block II surface-to-air missile capability in these ships. The New Threat Upgrade/SM-2 Block II combat system enables us to engage more targets simultaneously at ranges two to three times greater than that of the SM-1 missile. These modernization improvements are significant, much needed, and will provide an affordable threat response until AEGIS ships are available in sufficient numbers.

The FY 86 modernization of the amphibious forces continues with funding for a three ship multi-year procurement of the LHD-1 class ship. These ships represent the cornerstone of our plan to expand amphibious lift capabilities and typify the new character of amphibious warfare as it transitions to an over-the-horizon capability. Similar in design to LHA class ships, the LHD provides large spaces for transporting troops, vehicles, and cargo in amphibious assault. It has the ability to carry three Air-Cushion Landing Craft and many helicopters. The LHD-1 also is capable of supporting V/STOL aircraft and can be used, if required, as a substitute for our large deck aircraft carriers.

Although qualitative and quantitative gains in ships, aircraft, and weapons are central to maintaining our present edge, the total effectiveness of these forces can be no better than the command, control, and communications systems we rely on as the sensor-to-shooter links necessary for coordinated long range operations. Thus, the FY 86 budget request also contains several important command and control modernization programs which will enhance our capability to direct naval forces and their weapons in accordance with a timely and accurate tactical picture derived from multiple sensors. These programs include: Relocatable Over-the-Horizon Radar (R-OTHR), Advanced Combat Direction System (ACDS), Joint Tactical Information Distribution System (JTDS), Anti-Jam High Frequency Radio, and the tri-service/NATO interoperable MK XV Combat Identification System. Joined with command/control capabilities already in place, these developments complete an integrated information system to facilitate both coordinated defense of our naval forces and targeting at over-the-horizon ranges. Finally, the Navy continues to make major investments in cryptographic security equipments to protect our communications against technical and tactical exploitation by our adversaries.

FY 86 Force Levels

We learn many lessons from at-sea exercises and war games at the Naval War College. One of the lessons which came through clearly at the Global War Game held at the Naval War College in Newport last summer was that while it is important to have a sufficient supply of conventional ordnance for a protracted war,

it is equally important to have sufficient numbers of aircraft and ships to deliver the ordnance on enemy targets during a protracted war.

A balanced program must include funding for an adequate number of ships and aircraft. Our FY 86 force structure request is \$18.5 billion or 20 percent of the requested TOA. This includes funding for 23 new ships and five conversions of existing ships. New construction includes one TRIDENT submarine, four LOS ANGELES class attack submarines, three TICONDEROGA class cruisers, four MCM-1 class ships, four MSH-1 class ships, two LSD-41 class amphibious ships, one LHD-1 class ship, two TAO-187 class ships, and two TAGOS class ships. Our first TAGOS ships, USNS STALWART (T-AGOS-1) and USNS CONTENDER (T-AGOS-7) recently completed very successful certification trials in both the Atlantic and Pacific. These mobile ASW surveillance system ships are important complements to our fixed surveillance systems and will enhance our ability to posture forces to deal with changes in Soviet submarine deployment patterns.

Aircraft procurement for FY 86 will maintain inventories matched to force levels, with 322 total aircraft requested. FY 86 is the last procurement year for the F-14A (18 aircraft) with the TF-30-P-414A engine. Beginning with FY 87, the F-14A will have an operationally superior engine, the GE F-110. FY 86 marks the first production year of the CH/MH-53E proposed multi-year program. Four CH-53Es and 10 MH-53Es are planned for the initial year of production. The MH-53E will be the mainstay of our airborne mine countermeasures force, replacing the older and less capable RH-53D. Also, beginning with FY 86, the E-2C will receive the upgraded T56-A-427 engine which will improve flight safety and provide power for increased weight.

Important new start items in the FY 86 aircraft modification program include the modification to integrate the HARM missile into the A-6, procurement of a new intercommunications system (ICS) replacement for the S-3 aircraft, and incorporation of survivability and vulnerability improvements in several combat aircraft. Some important on-going aircraft modification programs in FY 86 include: A-6 TRAM, structural and TF-30 engine improvements in the F-14, H-46 Safety, Reliability, and Maintainability Update, H-3 SLEP, S-3 Weapon System Improvements, and ALQ-126B kit procurement.

After thorough review, we have decided to proceed with the E-6A as the replacement for EC-130 TACAMO aircraft. This highly capable platform will permit connectivity with TRIDENT submarines throughout the broad ocean area and will assure survivability of this vital strategic communication link in the face of a growing threat.

The naval aircraft procurement and modernization programs have been carefully considered and balanced to satisfy our needs to support 15 carrier battle groups and 14 active deployable air wings. Two upgraded Naval Reserve airwings will meet mobilization requirements by filling the deck of the fifteenth carrier and the carrier undergoing SLEP.

Conclusion

We pray for an orderly and peaceful world where wisdom and judgment prevail and the condition which I call "violent peace" becomes little more than a memory. Regrettably, I fear we must

anticipate a continuation of the unrest and low level conflict which has characterized this decade. Terrorist acts, in all likelihood, will continue and be more destructive, more violent, and more frequent in occurrence. Continued economic deterioration in the Third World could lead to even greater instability.

If the past provides insight for the future, we must anticipate that the Navy will be the instrument most often employed by the National Command Authority both in response to emergent crises and pro-actively as a deterrent to prevent crises from occurring. In either case, the Navy will be responsible to prevent the escalation of violence and reduce the probability of events leading to superpower confrontation. Today, as a result of your support, the Navy is fully prepared for such contingencies.

As the United States transitions to a defense-oriented strategic deterrence posture, our ballistic missile submarine force will be crucial to strategic nuclear stability. Moreover, the conventional deterrence provided by ready and capable naval forces forward deployed to areas of U.S. vital interests will foster continued solidarity with our allies and deny the Soviets any hope of achieving their goals through a major conventional conflict.

The FY 86 Navy budget request has been carefully prepared to ensure our readiness to fulfill national security objectives. The budget gives us the capability to maintain deterrence across the spectrum of conflict from crisis response to global war with a high level of confidence.

Because of your support in restoring this nation's naval muscle, and our constant efforts to reduce costs and increase efficiency, less fiscal growth is required during the second half of the decade. We need only slightly more than half the growth required during the first half of the decade. The program which we have proposed will maintain the maritime superiority so essential to our national security.

The Navy's role in maintaining national security while deterring conflict will remain crucial in the unstable, violent world in which we live. We recognize our unique responsibilities in deterring violence across the spectrum of conflict and controlling escalation when conflict occurs. We are prepared to respond to the challenges we surely will face. The support of the Congress and the American people, coupled with the selfless professionalism of the men and women in Naval uniform who give 110 percent everyday, guarantee that the Navy will continue to be at-sea, underway, helping to protect and preserve the ideals cherished by the people of this great nation.

APPENDIX

1. SUMMARY OF U.S. NAVAL FORCES

(As of 1 January 1985)

STRATEGIC FORCES		
SSBN		38
SUPPORT		<u>6</u>
	SUBTOTAL	43
TOTAL STRATEGIC FORCES		43
BATTLE FORCES		
AIRCRAFT CARRIERS		9
CVN		<u>4</u>
	SUBTOTAL	13
SURFACE COMBATANTS		
BB		2
CG		20
CGN		9
DD		31
DDG		37
FF		53
FFG		<u>44</u>
	SUBTOTAL	198
SUBMARINES		
SS		4
SSN		<u>95</u>
	SUBTOTAL	99
AMPHIBIOUS WARFARE		19
MOBILE LOGISTIC SHIPS		53
PATROL COMBATANTS		8
MIKE WARFARE		<u>2</u>
	SUBTOTAL	131
TOTAL BATTLE FORCES		429
SUPPORT FORCES		
MOBILE LOGISTIC		21
SUPPORT SHIPS		<u>25</u>
	SUBTOTAL	46
TOTAL SUPPORT FORCES		46
MOBILIZATION FORCES (CATEGORY A)		
SURFACE COMBATANTS (DD, FF, FFG)		10
AMPHIBIOUS WARFARE SHIPS		<u>2</u>
	SUBTOTAL	12
TOTAL MOBILIZATION FORCES		12
TOTAL U.S. NAVAL FORCES		529

NAVY AIRCRAFT

STRIKE FIGHTER	134	
FIGHTER	878	
ATTACK	1284	
ANTI-SUBMARINE	168	
PATROL	427	
WARNING	148	
TRANSPORT	138	
IN-FLIGHT REFUELING	60	
TRAINERS	1156	
SPECIAL MISSION	6	
OBSERVATION	94	
UTILITY	114	
HELICOPTERS	1437	
DRONES	19	
TOTAL AIRCRAFT		6083

2. NAVY FIVE YEAR SHIP CONSTRUCTION/CONVERSION PLAN

	FY 86	FY 87	FY 88	FY 89	FY 90
A. NEW CONSTRUCTION					
TRIDENT	1	1	1	1	1
SSN 588	4	4	4	2	4
SSN 21				1	
CG 47	3	3	3	2	
DDG 51		2	5	5	5
LSD 41	2				
LHD 1	1		1	1	1
LSD 41 (VAR)			2	2	2
MCM	4	1			
MSH 1	4	4	4	4	
AR					1
TAO 187	2	2	2	2	2
TAGOS	2	2			
TAGS					
AE			1	1	1
AOE 6		1	1	1	1
AFDM			1		1
TOTAL UNITS	23	20	25	22	19

	FY 86	FY 87	FY 88	FY 89	FY 90
B. SLEPs, CONVERSIONS, AND REACTIVATIONS					
LPD 4 SLEP			1	3	3
CV SLEP		1			1
BB REACT		1			
AO JUMBO			1	2	2
TAVB (Conv)	1				
TACS (Conv)	3	2	2		
AG (Conv)	1				
TOTAL UNITS	5	4	4	5	5

3. NAVY FIVE YEAR AIRCRAFT PROCUREMENT PL

TYPE	FY 86	FY 87	FY 88	FY 89	FY 90
A 6E F	6	6	12	12	12
EA 6B	12	12	9	9	9
AV 8B	46	47	48	60	35
F 14A D	18	18	12	24	24
F 14A R	84	102	120	122	148
F 15A E	14	14	14	14	15
AM 1T	22	—	—	—	—
SH 60B	18	18	18	18	18
CV 12 HELO	—	7	24	30	30
P 1C	9	9	8	8	8
MP 3D	—	—	1	1	1
JVR	—	—	—	18	42
F 16C	6	6	6	6	6
SH 7F	6	—	—	—	—
F 9	—	—	—	—	—
UC 12B	12	12	—	—	—
F 2	8	9	—	—	—
F 14C	18	50	—	—	—
F 44	—	15	—	—	—
ADVERSARY	12	—	—	—	—
F 45A	—	—	12	24	24
FM 57	—	—	—	—	—
F 6A	2	4	6	2	—
AC 130T	—	—	—	—	—
VM 60	9	—	—	—	—
UM 60	—	—	—	—	—
TOTAL UNITS	322	329	290	348	388

STATEMENT OF GEN. PAUL X. KELLEY

MODERNIZATION PROGRAM

Senator STEVENS. General Kelley, we are happy to see you here today.

General KELLEY. Thank you very much, Mr. Chairman.

I just have a few very, very brief remarks. You have my prepared statement.

It is always a great pleasure, sir, to appear before this committee. Since appearing last year, we have had an extremely successful year. Our modernization continues apace, both air and ground, and I want to thank the members of the committee, particularly Senator Stennis. You will be very happy to know that in January, sir, we activated our first active AV-8B squadron. Through your great efforts over the years, we have reached the reality that is so essential to the Corps.

To emphasize what Admiral Watkins mentioned, our recruiting has never been better. This year 95 percent of our young Marines coming in were high school graduates, and less than 4 percent were in that lower mental group category that gave us too many disciplinary problems in the past years.

One thing of significance, we have had a sociological change in the Corps over the years, and some 40 percent of our enlisted people today are married. So we continue to request your support for the quality-of-life programs that are so essential to retain these young quality marines and their families within our Corps.

By every standard that you want to use, our readiness is the highest that we have ever had. The equipment readiness, as an example, is the highest that we have experienced in our entire history, higher than even my own goals that I set last year. We have had more flight hours this past year than in any year since the withdrawal from South Vietnam, and, as a consequence of that, our accident rate this past year was also the lowest in our history.

Our fiscal year 1986 budget, Mr. Chairman, has no frills. It is designed to give the taxpayer the biggest bang for the buck.

Thank you, sir.

[The prepared statements of General Kelley and Rear Admiral Cooper follow:]

PREPARED STATEMENT OF GEN. P. X. KELLEY, USMC
COMMANDANT OF THE MARINE CORPS

Mr. Chairman, distinguished members of the Committee:

It is again my privilege to report to you on the current and future posture of your United States Marine Corps.

Before I begin, I wish to thank the members of the Committee and the entire Congress for the support given to the Marine Corps during the past year. Thanks to you, our combat readiness has never been better. The Corps is well trained, equipped, and supplied for the most demanding of assignments--from low intensity conflict (including countering state-sponsored terrorism) to high intensity, large scale, global commitments. With your continued support the Marine Corps will maintain and hone this readiness and our unique capability to respond to national security needs across the entire spectrum of conflict. The presence of amphibious forces, either routinely deployed or in response to a crisis, provides visible, measured support to deter or prevent escalation of a crisis in support of national policy objectives. Should subsequent force be required, Marines are prepared to rapidly provide the measured response directed.

Fiscal realities, driven by national economic priorities, will require tough Congressional decisions this year. It is my intention, as I report to you today on the current posture of the Marine Corps, to assure you that I remain dedicated to providing sound, accountable stewardship of those resources entrusted to the Marine Corps.

I would emphasize that, measured in terms of structure, training, equipment, mobility, readiness, sustainability, and the positive attitude of the individual Marine, the Corps provides the national defense effort a capable, ready, and flexible resource.

This flexible and responsive capability is unique to the Navy-Marine Corps team. It is unique in the sense that Navy and Marine combat-ready air, ground, and sea forces are routinely forward-

deployed around the world. A Marine Air-Ground Task Force (MAGTF) can be tailored for any mission and will vary in size from a Marine Amphibious Unit (MAU) of approximately 2,000 Marines--the type employed in Grenada--to a Marine Amphibious Force (MAF) of about 50,000 Marines. The Grenada example demonstrates the flexibility of the maritime forces and their "no-warning" response capability.

Our vast overseas national interests are assuming an increasingly important role in the interdependent western economic system. These interests are vital to our economic and national security. Continued Soviet military adventurism, their cynical use of surrogates, and the spread of state-supported terrorism, coupled with an increasingly complex international political environment, increase the value of forward-deployed Navy-Marine Corps forces. Through rapid repositioning, Navy and Marine amphibious forces can send a clear, controlled signal of U.S. resolve to both friend and foe.

U.S. maritime strategy reflects the maritime character of our nation and supports protection of our legitimate national interests. The Navy-Marine Corps team works and trains together to provide the capability to establish maritime control whenever and wherever required. I can assure you that, with the support of the Congress and the American people, the Navy-Marine Corps team will continue to provide this capability.

COUNTERING TERRORISM

Because of its growing threat, early in my remarks I would like to address state-sponsored terrorism. Terrorism constitutes a new dimension in warfare which will be with us for the foreseeable future. The Marine Corps recognizes that this threat requires the development of unique skills necessary for its defeat. We have turned much of our energies toward establishing a thorough, innovative program to effectively combat terrorism. Let me tell you about our program. The objectives are to have every Marine thoroughly aware of the terrorist threat, realistically trained and educated in how to counter that threat, and armed with the best

doctrine, tactics, and equipment we can produce. In addition, efforts are being made to provide our field commanders timely, accurate intelligence concerning terrorist activity and to establish the level of tight security required to deter terrorist attacks against Marine Corps installations, facilities, and deployed units.

Our program consists of a series of completed and ongoing actions that come under seven program areas. The first of these areas is monitoring and coordination. Actions in this category provide centralized control at the Headquarters Marine Corps level and each major subordinate command. We have established the agencies, focal points, and working groups required to efficiently and effectively implement the measures that make up our program, monitor their progress, and provide the field commander the assistance and expertise he may need to develop his security plan.

The second program area is the continuing review and study of the terrorist threat and of our capability to counter it. We have attempted, through a variety of efforts, to make a complete examination of what we are up against and to make an honest assessment of our current capabilities to deal with it. It is clear that this process must be dynamic to combat a constantly changing threat, and we must remain capable of anticipating changes and quickly adjusting tactics, techniques, weapons, and threat locations.

Obviously, any ability to counter the terrorist threat must begin with accurate, timely intelligence. Intelligence is our third program area. Within our Intelligence Division, we have established a Terrorist Threat Section which gives us a direct interface with other intelligence agencies addressing terrorism. This Section provides our commanders with the analysis, specific threat reports, and on-site assistance needed to build their local security plans. The Terrorist Threat Section attempts to identify specific threats to Marine Corps personnel or installations and provide timely information, recommendations, and intelligence assistance to the threatened command or region.

In physical security, our fourth program area, we have formally reviewed Marine Corps security requirements for each of our installations and units, and initiated a security upgrade of our facilities. Security enhancements include publishing a new physical security and crime prevention manual, acquiring security equipment and dogs, enhancing military police training, and preparing detailed local security and crisis management plans.

Training and education, our fifth area, is the cornerstone of our program to combat terrorism. An aware, alert, well trained Marine is the key to defeating the terrorist. We have initiated actions in our formal schools and recruit depots to significantly increase instruction on combatting terrorism. Additionally, we have introduced correspondence courses, video tapes, films, war games, and mobile training teams to further enhance our training.

Through our sixth program area, we are providing the doctrine, tactics, and techniques necessary for our Marines and their commanders to fight the terrorist. Our new publications will range from policy and guidance for the commander and his staff to the "how to fight" techniques for the Marine on the ground facing the threat. In this regard, we are making full use of members of the Marine Corps Reserve who have special skills and talents in the areas of security and countering terrorism.

In our final program area, operational capability, we have enhanced our ability to operate in a terrorist environment by making certain organizational adjustments, particularly in our security forces, and by establishing and publishing an operational standard to evaluate our units' capabilities. Our operating forces will be provided the security expertise and equipment to enable them to conduct operations at any level of conflict, while retaining the ability to deal with the added threat of terrorist activity.

The Marine Corps is committed to defeating terrorism, rather than coping with it or "weathering it out" as a passing storm. We intend to prove to enemies that terrorism is too costly a tactic to adopt against Marines.

MODERNIZATION/STRENGTHENING PROGRAMS

I would like to move on to more conventional and familiar matters at this point and briefly review our major modernization programs.

The Department of the Navy (DON) has embarked upon a balanced shipbuilding program designed to meet the Defense Guidance objective of sufficient ships to simultaneously lift the assault echelons of a MAF and a MAB. The current Navy shipbuilding plan will fully meet the Marine Corps stabilized lift requirement by FY94.

The program for our most capable amphibious ship, the amphibious assault ship (multipurpose), LHD 1 (WASP) Class, is well underway. Keel laying for the USS WASP will be in August. The LHD 1 Class is the linchpin to meeting overall Defense Guidance lift objectives. Accordingly, we fully support the Navy request for advance funding for three more of these superb ships.

The lead ships of the LSD 41 Class (LSD 41, 42, 43) are invaluable additions to the Nation's amphibious capability. USS WHIDBEY ISLAND (LSD 41) was recently commissioned; USS GERMANTOWN (LSD 42) was launched in June of last year; and LSD 43, as yet unnamed, is scheduled for launch in December of this year. Three additional LSD 41 Class ships have been authorized, with plans for two more in this year's defense appropriations request. A derivative class of amphibious ship, based on the LSD 41 hull and optimized for cargo lift, is being developed by the Navy. Additionally, although not a new construction effort, the LPD 4 Class of 11 ships is scheduled for a service life extension which will provide an additional 15 years of service life for these very capable ships.

Coupled with the delivery of the LCAC, which I will address in more detail shortly, and the LSD 41's, introduction of the LHD provides the Nation's amphibious forces the opportunity to advance and further refine evolving techniques for the over-the-horizon (OTH) launch option of amphibious forces. The OTH launch will be one of the keystones of successful amphibious warfare in the future.

In addition to the sealift capability provided by naval

amphibious shipping, a competitive, healthy merchant marine fleet is essential to the structure of a strong national maritime strategy. Although the existing merchant fleet is being modernized, its size, when considered in the context of supporting a defensive global strategy, causes concern. The Marine Corps strongly supports Congressional initiatives to expand the merchant fleet which concomitantly enhances the national capability to support projection of maritime power.

The Maritime Pre-positioning Ships (MPS) concept, the most important and innovative of our crisis-response enhancements, is now a reality. The MPS program represents a significant new dimension in mobility, readiness enhancement, and global response. When national interests are threatened, an MPS squadron can rapidly alter course or get underway to arrive in the crisis area in a matter of days. The strength of the signal of U.S. intent and resolve can be controlled by adjusting the visibility of the MPS squadron. When directed, Marines would be airlifted to the crisis area to marry-up with their equipment and supplies to carry out a variety of missions. I am a firm believer that an ounce of prevention is worth a pound of cure and that when you have the ability to quickly move a 16,500-man Marine brigade to a crisis area, you have a ready-made prescription to prevent that crisis from escalating. MPS is just such a prescription. It provides a force of combined arms with 30 days of essential supplies, available on call. The MPS program is also a bonus for the private sector by assisting in revitalizing our shipbuilding industry and the merchant marine fleet which, in turn, enhances our sealift capability. We have already begun the loadout of the first MPS Brigade. The second MPS Brigade will become operational later this year and the third brigade by the end of CY86. Construction has begun on all of the cargo ships to support the MPS program.

Beginning this calendar year, we will start exercising MPS forces. Selected elements of MPS 1 and 6th MAB intend to participate in conjunction with various fleet, allied, and JCS exercises.

As our additional MPS sets become operational, the goal will be one JCS-directed exercise per MPS set each year involving in-stream and pier off-load, marshalling, recall, air movement, and depreservation/represervation techniques.

An important associated initiative is the Aviation Logistic Support Ship (TAVB) program. With either of two TAVB ships available, the aviation combat element of any MAGTF will be provided more rapid intermediate maintenance support once it arrives in the area of operations. The TAVB provides vital support for both helicopter and fixed-wing aircraft, through sealift of a partial, consolidated, intermediate maintenance activity to a theater of operations. This seaborne maintenance capability permits early introduction of landing force aviation which can expedite the early release of carrier battle groups to other sea control or force projection missions, if needed.

Another strategic mobility enhancement is our pre-positioning of selected equipment and supplies in Norway. By doing this we will reduce our response time to the critical northern flank of NATO from weeks to days. The Norway force, a MAB-sized unit, is a totally integrated, air-ground team under a single commander with a sustainability package specifically tailored for cold weather operations. It is a versatile, formidable force of approximately 13,000 Marines and sailors and over 150 aircraft. Since each MAB is task organized to accomplish the mission assigned, the Norway MAB meets the unique requirements of the Norway mission, and, consequently, is different from the previously mentioned MPS MAB. This Norway prepositioning program has been designed to provide rapid deployment to an area vital to America and her NATO allies. The program itself sends a clear signal of U.S. commitment and resolve without any requirement to post a single Marine on Norwegian soil. Commitment of the MAB can be accomplished quickly with a minimum of reliance on scarce, strategic airlift.

The pre-positioning necessary to make this rapid response work includes only what is mission essential and suitable for long-term

storage. It is a pleasure to report that the Norway pre-positioning program is proceeding on course, and remains a top defense priority for the Norwegians who have stepped forward to provide an unprecedented level of support. Norway's contribution through host nation support has greatly reduced our total pre-positioning requirements. For example, the Norwegian unit assigned to support this MAB will include over 600 personnel and 370 vehicles.

In addition to our strategic mobility improvements, we have made significant strides with our tactical mobility programs, several of which I would like to briefly discuss. The first one is the Landing Craft Air Cushion (LCAC). Loaded on the LSD-41 and other well-deck ships, and launched from OTH, the 40-knot-capable LCAC, in conjunction with the helicopter, will reduce the risk to ships of the amphibious force while enhancing the surprise, mass, and maneuver of the assault forces. The first LCAC has been delivered to the Navy. The initial operational capability for the first six-craft detachment, to be homeported at Camp Pendleton, California, is 1986. A second LCAC support base is planned for Little Creek, Virginia. I am providing a synopsis of all our enhancement programs in Appendix I.

As a result of a service life extension program, we are both enhancing the operational capability of our LVTP-7 amphibious assault vehicles and extending their useful life. A future Landing Vehicle Tracked is being developed concurrently as the follow-on assault amphibian for the current LVT-7 family when it reaches the end of its service life in the late 1990's.

Complementing the improvements in surface lift capability, Marine Corps aviation has supported the development of the MV22A "Osprey." This tilt-rotor aircraft, known earlier as the JVX, will provide speed and efficiency to the assault and will be capable of lifting ground combat troops, small tactical vehicles, and anti-tank units. Replacing our aging fleet of assault transport helicopters in the 1990's, the Osprey can operate at speeds of 250 knots at vastly improved ranges. The CH-53E, the most powerful helicopter

in the free world, complements the Osprey by providing the required heavy lift capability into the 21st century. Its 16-ton lift capacity is necessary to enhance the operational mobility of the M198 155mm howitzer, the Light Armored Vehicle (LAV), as well as other MAGTF heavy equipment.

Tactical mobility improvements for our ground combat element focus on the acquisition and introduction of a new family of ground transport vehicles. The M939 series 5-ton tactical truck features an automatic transmission which will provide improved performance while simplifying driver training and maintenance. This program will be completed during FY87.

The 5/4-ton High Mobility Multipurpose Wheeled Vehicle (HMMWV) will be the primary tactical vehicle for combat and combat support units. Its functions will include troop and weapons transport; weapons platform; reconnaissance; fire support; medical evacuation; and command, control, and communications applications. This vehicle will replace most of the current 1/4-, 1/2-, 3/4-, and 5/4-ton trucks, as well as the 1/4-ton trailers. It satisfies the urgent requirement to replace current over-age vehicles and eliminates severe T/E and war reserve deficiencies. The fielding of the HMMWV will begin this year and continue through FY88.

The mobility enhancements, both strategic and tactical, provide Marines the means to get to, and around, the battlefield. This is only one aspect of the improvements being made to enhance the effectiveness of the Marine Corps. I would like to turn your attention now to our ground forces.

The reorganization of Marine Corps infantry battalions into more firepower-intensive units began in 1983. When reorganization is completed in May of this year, these battalions will have fewer personnel, but their organic firepower will be increased appreciably. This increase is the result of the acquisition of the improved M16A2 rifle, a new squad automatic weapon (SAW), an improved M60 machine gun, the MK19 40mm machine gun, the M2 .50 caliber machine

gun, the Shoulder-Launched Multipurpose Assault Weapon (SMAW), and a new 60mm company mortar.

The Marine Corps' armor defeating capability is also being improved in every area. Each Marine division now has twice as many TOW II's, which are capable of defeating any known threat armor. The TOW II is equipped with a thermal night sight. The Dragon, Medium Anti-Armor System, which will also have a thermal night sight, is undergoing a product improvement development that was funded by the Congress beginning this year.

The LAV was developed to fill a requirement for increased firepower and tactical mobility within the Marine Corps. The LAV battalion will eventually contain eight configurations of the LAV. Six of these configurations, the LAV-25, LAV Recovery, LAV Mortar, LAV Command and Control, LAV Logistics, and LAV Antitank are under procurement. The other two mission-role vehicles, the LAV Air Defense and the LAV Assault Gun, are still in development.

The M60A1, the Marine Corps' main battle tank, is reaching the end of its service life. The M1A1 tank, which has been approved for service use as the replacement for the M60A1, will provide the Marine Corps state-of-the-art capability.

Our ground mine countermeasures capabilities are being upgraded with the addition of the Catapult Launched Fuel Air Explosive Mine Countermeasures System for the LVTP-7A1, the M58 Trailer-Mounted Line Charge, the track-width Mine Plow for use with a tank, and the M59 Mine Clearance System Kit used with the LVT-7A1 series.

The modernization of Marine Corps artillery is continuing. All towed artillery battalions in the Active force will be equipped with 155mm howitzers by the end of the fiscal year. The new M198 howitzers have been included in the pre-positioning programs. Additional procurement of M198's for the Reserves is planned for FY86-FY87. These howitzers will be used to equip the direct support battalions of the Reserve division. Additional self-propelled, 155mm batteries are being activated to improve the general support artillery capability through their mobility and survivability.

Target acquisition capability will be enhanced by the fielding of the AN/TPQ-36 counterfire radar during this year. An additional enhancement is the Navy and Marine Corps joint program for a remotely piloted vehicle (RPV) with a desired initial operational capability of FY88. An RPV unit will be located within each division and will provide the MAGTF with an accurate, medium-range target acquisition capability.

The Marine Corps has selected the Army's Battery Computer System as its battery-level, fire direction computer. Procurement of the Army system allows continued joint training and logistics support, as well as providing us improved responsiveness and accuracy of artillery fires.

The Marine Corps continues to improve its ability to operate in an NBC environment. The number of specially trained NBC personnel has been increased by 75 percent. Modernization is proceeding rapidly with procurement of new decontamination equipment, chemical detectors, and protective equipment. We will remain at risk, however, until improved chemical munitions are available to provide a credible retaliatory capability.

Improvements in the aviation element of the Marine Corps have kept pace with the ground. With the support of Congress, the introduction of the AV-8B into the Marine Corps will continue this year. This unique aircraft is compatible with our forward basing strategies and complements the flexible capabilities of our Marine Corps. The AV-8B eliminates the need for prepared airfields and reduces the required response time for close air support by virtue of its forward displacement. The AV-8B, with twice the range or payload of the AV-8A, builds on the proven concepts of VSTOL (Vertical and Short Take-off and Landing).

As our first AV-8B squadron becomes operational this year, we have confirmed a pressing need for a two-seat trainer version. The largest pilot transition requirement commences in FY87 and will continue for the next few years. The timely introduction of

this trainer, the TAV-8B, is critical to the safe, efficient, and effective conversion of our remaining light attack force.

The Marine Corps, with the support of the DON, has undertaken an initiative to complement the nighttime capability of the A-6E. This attack enhancement program will be introduced first in the AV-8B and will include Forward Looking Infrared Radar (FLIR), night vision goggles, moving-map display, and image-enhanced heads-up display. This combination of systems will enable the pilot to detect, acquire, and destroy targets previously hidden by darkness.

Additionally, we are eagerly anticipating completion of the A-6E upgrade to the A-6F. This program promises enhanced capability, reliability, and survivability. Improvements in engines and radar systems will provide for the introduction of AAMRAM. Reliability and maintainability features designed to reduce maintenance manhours will be incorporated. Finally, heightened survivability will be achieved with increased weapons standoff, reduced systems vulnerability, and improved electronic countermeasures. This upgrade is essential to the development of enhanced deep strike, all weather, and reduced visibility capabilities of Marine Aviation.

The Marine Corps continues acceptance of the reliable and effective F/A-18. Our aircrews report that the F/A-18 is both a responsive and agile fighter, and a highly accurate attack platform. As we continue toward our ultimate goal of 12 F/A-18 squadrons, we will convert our fifth and sixth squadrons at MCAS Beaufort, South Carolina this year. Concurrently, two Marine F/A-18 squadrons will deploy this year aboard aircraft carriers as part of the Secretary of the Navy's interoperability initiative.

Another fighting improvement that we are investigating is the development of a two-seat, austere, all-weather version of the F/A-18. This two-seat version will feature decoupled cockpits, navigation FLIR, heads-down display, moving-map display, and night vision goggles.

During FY86, we will accept the first installment of our

two-year buy of 44 AH-1T+ attack helicopters. The procurement of the AH-1T+'s enables the Marine Corps to reduce existing inventory shortfalls as well as upgrade its capability. The incorporation of the T-700 engine in the AH-1T+ provides Marine attack helicopters the ability to operate anywhere in the world. The Hellfire missile system will become operational with the introduction of the AH-1T+ as well as other ordnance capabilities which include TOW, Side-winder, and Sidearm missiles. Finally, a night enhancement capability will also be inherent with the AH-1T+. This effort includes night vision goggles with compatible cockpit lighting.

As a result of continuing Congressional support, Marine Corps firepower in the form of air-delivered ordnance has improved. Laser Maverick procurement continues with a funding request for 1500 missiles in FY86. This missile provides an effective air-delivered, ground or air target-designated laser munition required in the close air support role. Also, procurement of the Hellfire missile will provide extraordinary point target accuracy and increased platform survivability. The significant stand-off range increase over our present capabilities enhances the survivability of the launching platform. Another low-cost initiative for the attack helicopter and AV-8B force is the Sidearm anti-radiation missile which is achieved by retrofitting existing AIM-9C missiles with an anti-radiation guidance group.

Marine Corps Aviation experienced a banner year in 1984. We flew more hours than any year since the Vietnam War, and our safety record was the best it has ever been. In addition to replacing many of our aircraft with more capable and reliable planes, we are flying more hours safely.

Naval Surface Fire Support (NSFS) continues as a vital component of the naval power projection equation. Future concepts will not diminish the need for adequate NSFS. Support of tactical options ranging from OTH launch to the more conventional assault may require certain naval surface fire support systems to be able to hit targets at ranges in excess of 100 kilometers.

The present inventory of NSFS platforms is deficient both in range and lethality due to heavy dependence on 5-inch guns. Accordingly, the Marine Corps strongly supports several improvements which are directed at enhancing NSFS, such as the reactivation of all four IOWA class battleships and the continuation of the Semi-active Laser Guided Projectile program through full production.

COMMAND AND CONTROL

New systems that will assist the Marine on the battlefield are in various stages of development and fielding. They will provide the Fleet Marine Force commanders with automated command and control support to cope with the increased tempo and complexity of the modern battlefield. Our philosophy is to use computers to relieve the Marine of repetitive, routine tasks; to perform certain tasks and calculations more quickly and accurately; and to organize, file, and present information to support decision-making.

One of these systems is the Position Location Reporting System (PLRS). PLRS is an automated, tactical, command and control system that provides the user with accurate, real-time position location and identification information. The Marine Integrated Fire and Air Support System (MIFASS) is another one of our important tactical command and control systems. Through MIFASS, the Marine commander is provided automated support in the integration of supporting arms with the ground scheme of maneuver.

These command and control systems will serve to enhance the coordination of our Navy-Marine Corps team. Our first major step in this direction is the permanent installation of these Marine Corps systems on the LHD-1 class amphibious assault ships. Not only will these tactical command and control systems support the landing force commander, but they will also be capable of providing up-to-date tactical information to the task force commander. Consideration is being given to including the permanent installation of Marine Corps tactical command and control systems in the LCC-19 class Ship Improvement Program.

The Deployable Force Automated Services Center (DFASC) is de-

signed as the solution to the operational deficiency inherent in large-scale automated data processing support for MAB or MAF units when deployed. The new DFASC will be transportable by current Military Airlift Command aircraft, as well as Marine Corps trucking and Navy shipping, and will be provided to each of the existing MAF's and the 4th Division/Wing Team.

This year's budget contains a proposal for a Tactical Air Operation Center, TYQ-23, an important centerpiece for our air command and control modernization program. The unique, modular construction of the TYQ-23 allows it to be tailored to the size of the Aviation Combat Element of the MAGTF. Utilizing increased automation, the TYQ-23 decreases response time and requires fewer personnel. All of the reliability initiatives demonstrated in TYQ-23 support will increase MAGTF responsiveness and mobility.

INTELLIGENCE

The thrust of the Marine Corps' intelligence efforts logically focuses on the timely support of power projection. Our operational requirements have been validated by the fleet commanders and the OPNAV Staff. CINCPACFLT's Maritime Air/Ground Intelligence Cell serves as a useful prototype for this support because it responds to the needs of deployed MAGTF commanders by providing appropriate level, all-source intelligence.

Our ability to produce and disseminate all-source intelligence to tactical commanders is developing rapidly under the Marine Air-Ground Intelligence System (MAGIS). The Intelligence Analysis Center, the "heart" of MAGIS, became operational this year. Other systems being developed include the All-Source Imagery Processor, a soft-copy imagery exploitation system which exploits electro-optical, infrared, and radar imagery in near real-time from tactical and national sources. Our Signals Intelligence and Electronic Warfare systems will be modular, transportable, and semi-automated. They will intercept, identify, locate, and jam threat signals from both airborne and ground based platforms as well as analyze and report intelligence information from tactical and national sources.

We remain dedicated to improving the ability of tactical commanders to exploit national intelligence capabilities through the Tactical Exploitation of National Capabilities (TENCAP) program. TENCAP assists in developing the systems, procedures, and force structure required to accomplish this vital function. It also educates and exercises our operational commanders in accessing those national systems which complement the tactical reconnaissance and surveillance assets organic to MAGTF's operating around the world.

Marine Corps membership on such national-level committees as the National Foreign Intelligence Board, the National Foreign Intelligence Council, the Intelligence Management Coordination Group, the Defense Reconnaissance Support Program Review Panel, and the Critical Intelligence Problems Committee, has greatly enhanced our participation in national-level intelligence forums.

COMBAT SERVICE SUPPORT

We are continuing to restore and enhance the ability of our Force Service Support Groups (FSSG's) to support and maintain amphibious operations at all levels of MAGTF configuration. Increasing the manning level of the FSSG's represents the culmination of our Combat Service Support Restoration Plan which will have elevated the FSSG manning of wartime requirements from a level of concern in FY80 to a healthy level by FY88. I might add that these enhancements are being applied to our Reserve component combat service support force as well as to the Active component.

The Marine Corps' implementation of the DOD Acquisition Improvement Program focuses on readiness and improved support to the Fleet Marine Force. We have increased emphasis on Integrated Logistics Support system designs which are reliable, maintainable, and supportable. This approach enhances combat service support by producing better weapons and equipment. Our strategy in the acquisition cycle includes the use of proven systems, adequate "front end" test resources, and integrated support requirements.

The Marine Corps Standard Supply System, or M3S, is being designed to provide a single supply system within the Marine Corps,

encompassing both the wholesale and retail functions for the Fleet Marine Force and the Supporting Establishment. It will replace four existing systems and will essentially combine their distinctly separate functions into one system.

The Marine Corps Field Logistics System (FLS) improves our strategic mobility and sustainability by concentrating on the development of needed material in configurations that are compatible with the requirements of container ships. Not only will we be more assured that available merchant shipping is used effectively, but also, by implementing the FLS modularization concept, a greater flow of material across an unimproved beach can be realized.

To assist in the off-load of containers from merchant fleet ships, we are in the process of procuring and fielding the Light-weight Amphibious Container Handler (LACH). The LACH, which has been operational since FY84, is a towed, straddle-lift carrier designed to remove containers and tactical shelters from beached landing craft and place them on trucks for further transport to inland combat service support areas. The LACH can also be dismantled and transported to inland areas for routine container handling.

The Logistics Vehicle System (LVS) consists of a powered front-body unit and four rear-body, trailer-type variants. This vehicle system will be capable of carrying standardized containers and heavy cargo, and will provide a necessary and significant improvement in tactical mobility while achieving a more supportable logistical vehicle fleet. The LVS is expected to be operational during FY85 with a total of 1400 in service by the end of FY88.

An area of immediate concern is that we do not presently have hospital ships to provide the medical support needed where our forces are employed, ready when the first casualty occurs. To correct this deficiency, the Navy has embarked on a program to provide dedicated afloat medical support for our forces through the Hospital Ship Program which will provide two San Clemente Class tankers

converted into hospital ships with 1,000 beds each. Initial operating capability is scheduled for May 1987 and February 1988.

The Rapidly Deployable Medical Facility (RDMF), which is currently afloat in the Indian Ocean, is the first facility to be acquired by the Navy in recent years which is dedicated to treating, holding, and returning patients to duty within the theater. The RDMF and the 11,250-bed Fleet Hospital Program will provide the bed space and treatment capability to reduce the logistics requirement for medical evacuation out of the theater and, consequently, reduce the demand for experienced, combat Marine replacements.

The Marine Corps has improved its medical capabilities through the acquisition of medical equipment and consumables to support each of the three MAF's. This support is designed to have the capability to be phased ashore, built up, and consolidated consistent with the tactical situation.

An increase in the number of medical personnel assigned to operational units provides enhanced medical care. These additional physicians, medical planners, and hospital corpsmen ensure that the required medical support is planned for and available at the time needed.

Consistent with our efforts to establish a warfighting capability through MPS brigades, we will pre-position the medical equipment and supplies necessary to support each of the MPS brigades.

As a force-in-readiness, the Marine Corps must be capable of rapidly deploying to respond to crises or contingency situations. Presently, we plan our embarkation process manually; however, we are currently developing an automated information system, called the Computer Aided Embarkation Management System (CAEMS), which will function on a microcomputer and use state-of-the-art graphics features. This system will enhance the Marine Corps' capability to combat-load ships and aircraft with each MAGTF's complement of supplies and equipment by providing automated embarkation load plans. We envision this system as an improvement

to our current Standard Embarkation Management System. Upon implementation, CAEMS will work in conjunction with the U.S. Air Force Computer Aided Load Manifesting (CALM) which is a prototype, automated, aircraft load planning system.

MANPOWER

At this point, I wish to draw your attention away from our hardware-related programs and discuss our singularly most important program--Marines and their families.

I continue to be awed by the character, quality, and commitment of the men and women performing the difficult missions assigned to Marines. While all of the matters discussed thus far have a high priority, nothing has a higher priority than continuing to enlist and retain quality young people who are among the finest in America.

Total force accessions in FY84, in addition to surpassing our goals, included 95 percent high school graduates--3 percent above last year--and better than 96 percent who achieved scores in Categories I-III in the Armed Forces Qualification Test (AFQT).

I am particularly pleased that the distribution of bright, self-disciplined young Marines to our combat units is approaching that of our technical and logistical units.

Our recruiting successes of the past five fiscal years are the result of four factors:

- First, a spirit of patriotism that exists among young Americans desiring to serve their country.
- Second, the dedicated noncommissioned officers assigned as recruiters in the neighborhoods and small towns across the nation.
- Third, favorable economic and demographic conditions.
- And, most importantly, Congressional support in providing the required resources.

We are closely monitoring our near- and long-term recruiting capabilities. Economic forecasts and demographic projections seem to indicate that there could be a change in future enlisted recruiting quality. We expect to continue to achieve the numerical

goals, but our analyses indicate the potential for a sharp downturn in the percentage of AFQT Category I-III A enlistments beginning in FY86 and continuing through FY90. This downturn could ultimately affect our capabilities and systems throughout the Marine Corps.

Officer accession programs also continue to provide intelligent and enthusiastic young people prepared to shoulder the future leadership responsibilities of our Corps. We completed a banner year in total reenlistments during FY84.

By the end of FY86, our manpower plan calls for an end strength of 199,500--a modest increase of 1,200 over the FY85 level. The net requirement for additional Marines is primarily associated with ongoing weapons and equipment modernization and enhancement programs. Concurrently, the net result supports our overall goal of maintaining a high level of personnel readiness.

I wish to highlight a particular manpower problem which we need your help to correct--the shortage of field grade officers. The Defense Officer Personnel Management Act (DOPMA) field grade ceilings, coupled with high and stable retention rates, are preventing the Marine Corps from meeting the promotion timing window for the grade of major as intended by Congress and our programmed requirement for 500 additional officers in this grade. I wish to emphasize that this grade relief request will not increase the active duty strength of our officer corps.

The Comprehensive Flag and General Officer Legislation is also of great significance. In addition to permitting us to properly staff important internal and joint billets, we believe this legislation will provide the control over flag and general officer numbers desired by Congress and will offer the Services a stable set of expectations for structuring key leadership requirements.

As I travel throughout the Corps listening and talking to our Marines, I continue to be impressed by the strong, consistent support furnished by the silent partners--the Marine family. Our families rely on institutional support--a fair, reliable, compen-

sation system, medical care, commissaries, and exchanges--in order to bear the hardships of essentially maintaining two family units.

Today's military compensation system is a complex, multidimensional support system--one made up of pay, benefits, reimbursements, incentives, and retirement. Military pay is the basic foundation that touches every Marine. The trend over the last few years has been to base pay increases on retention and recruiting successes, not on economic reality. I remain committed to achieving pay comparability for all Marines--comparability which maintains military pay at a level that is equitable and competitive with the private sector.

Benefits and reimbursements support the foundation of the compensation system. Normally non-headline areas, benefits and reimbursements became the center of attention this past year. We must collectively stabilize the benefits of the military compensation system enjoyed by all service members that specifically provide for the reimbursement of costs inherent in permanent change of station moves.

The current retirement system continues not only as a powerful career incentive, but also as a force management tool, because the pool of retirees eligible for recall to active duty supports mission readiness in the total force. It is one of the key ingredients of the entire compensation system and should not be changed.

While compensation issues are important, the well-being of Marines and the soundness of the family environment directly affect retention of quality personnel. Many initiatives, beyond compensation, are planned to improve the well-being of our families. Programs designed to enhance family relationships lead to more effective and happier families. This benefits both the Marine Corps in particular and society in general.

In the event of mobilization, many families will need assistance during the transition from reserve and retired status to active duty. To assist with this transition, Marine Corps Casualty/Family Assistance Teams--established in over 75 locations throughout the

country--are tasked with providing information to families and reporting and processing casualty notifications as they occur.

Another personnel-related matter is BAQ/VHA allowances, where we appreciate your efforts to improve BAQ/VHA entitlements. Marines in certain areas, however, are still concerned with finding adequate housing for their families because, as the cost of housing increases, these Marines find themselves unable to obtain satisfactory housing within their BAQ/VHA allowances.

An additional concern of Marines for their families is military medical and dental care, an integral part of the Marine's total benefit package. I fully support DOD's initiative to provide a Dependent Dental Program.

Morale, welfare, and recreation must be viewed as important, although intangible, elements in retention and readiness. Non-appropriated funds support the majority of our recreation programs, and we continue to emphasize the judicious use of these funds.

The concerns just addressed take on additional importance as we continue steady progress in our effort to increase the number of accompanied tours on Okinawa. Currently, there are over 1,300 command-sponsored Marine families there. This number, which is tied to the availability of family housing, will increase by 225 in FY85 and FY86. Combined with the expanding Unit Deployment Program (UDP), the accompanied tour program continues to reduce unaccompanied tours overseas, reducing costly Permanent Change of Station moves and increasing personnel stability in Okinawa-based units. Our goal continues to be accompanied tours for all career Marines and dependent-restricted tours for all first-term Marines. Stability afforded by the UDP and longer accompanied tours directly enhances readiness. We are convinced that the impact on family morale and retention of quality career Marines will be of benefit for years to come.

One personnel area in which we have experienced considerable progress is our substance abuse program. Early in 1982, we implemented new programs to eliminate the use of illegal drugs and

the abuse of alcohol in our Corps, and, according to a recent survey, these programs are working. Drug abuse has dropped by one-half from the 1980 level. Per capita consumption of alcohol is down by one-third, and the number of heavy drinkers is down by one-half since 1980. We continue to actively pursue our goal of nontolerance of drug use and alcohol abuse. We continue to deglamorize the use of alcohol and encourage those who elect to drink to do so wisely. Leadership, education, urinalysis, discipline, treatment, and rehabilitation are the basics of our success.

Another important personnel area is the increased importance of women in the Marine Corps. During the last decade, while end strength remained relatively stable, the number of women on active duty nearly tripled to 643 officers and 8,550 enlisted. We recently completed a comprehensive review of the classification, assignment, and deployment policies for enlisted women. The primary goal in this review was to ensure combat readiness of Marine air-ground task forces. The review established that enlisted women should continue to serve in 35 of 39 occupational fields and that the enlisted woman population should increase from the present 8,550 to about 10,500. Women will continue to serve throughout the Fleet Marine Force and supporting establishment in time of peace and during war.

Marine Corps policy provides for full utilization of our vital civilian personnel. Employment of civilian personnel permits more effective manning of the Fleet Marine Force; enhances training, readiness, and sustainability; provides continuity in operations; and provides specialized experience that is not otherwise available within the military structure. Our civilian personnel are employed in a wide variety of professional, technical, and administrative functions.

In concluding my remarks on manpower, I wish to say that leadership requires special emphasis. I will continue to insist

that Marine Corps policies and programs continue to produce and reinforce sound leadership. Whether in a peaceful barracks setting or in a tense, crisis situation, your Marines deserve leaders who are competent, dedicated, and professional; to these principles we are committed. Americans historically have always responded to strong, fair leadership. The Marine Corps develops leaders willing to accept responsibility for the mission and for people. Our policies are designed to create stability at the battalion and squadron level, and they stress teamwork and unit esprit in order to maintain high morale and superior readiness. Our emphasis on quality Marines produces individuals prepared to respond to the leadership challenge.

MARINE CORPS RESERVE

The Marine Corps Reserve is charged with providing the capability for rapid expansion of the force during a national emergency. Today, the Reserve is an integral partner, providing substantial peacetime contributions, as well as wartime capabilities. These forces present a vital, added dimension to the Marine Corps' ability to respond to crises.

The Marine Corps has a mobilization capability that is second to none among the Services. Trained units and pretrained individuals can be quickly assimilated from the Reserve into a total war effort. Provisions have been made to augment or reinforce Active commands with a great range of capabilities, from individual combat or support units to an entire reserve MAGTF. In a maximum effort the Reserve will provide almost one-third of the manpower and a broad range of combat assets, to include 100 percent of the civil affairs capability, 67 percent of force reconnaissance assets, 40 percent of the tanks, 33 percent of the heavy artillery, 33 percent of the anti-aircraft missile capability, and 30 percent of light-attack aviation.

From a purely manpower perspective, mobilization of pretrained Marines from the Individual Ready Reserve (IRR) has become increasingly refined. The procedure for identifying grade and skill

requirements is fully automated, as is the flow process which directs the individual to a vacancy in his gaining command. A preassignment program identifies certain reservists whose presence is time-sensitive and issues "hip-pocket" orders directing them to a particular post within the first few hours of mobilization. This accurate, timely expansion of the force with qualified individuals and organizations is an essential dimension to Marine contingency planning and may be a critical dimension to success on the battlefield.

The wealth and depth of experience and expertise in the Reserve are impressive. Combat experience alone, still high among prior-service, career reservists, is an asset to be skillfully retained and utilized. The Marine Corps has also developed a program to take advantage of skills developed in the business world. Mobilization Training Units, currently composed of 900 officers and 100 staff noncommissioned officers in the IRR, are focusing their expertise on special projects for 18 operational sponsors in 35 states. The technical credentials and completed projects of these Marines are being catalogued for future reference.

Over the years there has been a changing character in the Active/Reserve relationship. Once viewed primarily as a source of pretrained individuals, Selected Marine Corps Reservists train today as highly effective combat organizations. Units are tied to Active commands in contingency planning. This concept of Reserve reinforcement is now being expanded to include provisions for a Reserve MAGTF.

Total Force equipment modernization and structure growth for the Reserve are carefully planned and orchestrated. In concert with Active forces, Reserve units will receive the major, new, ground equipment and weapons systems being introduced into the Marine Corps inventory. Along with equipment modernization, numerous structural changes are occurring, to include activation of the remainder of the 4th Medical and 4th Dental Battalions, an LAV battalion, a target acquisition battery, and the reorganization of infantry and direct-

support artillery battalions. In FY85, the Marine Corps will activate its first Selected Marine Corps Reserve unit in Anchorage, Alaska. This unit will provide opportunities to take advantage of extensive Alaskan training areas and to conduct operations in a genuine arctic environment. Growth and modernization of Reserve aviation are also proceeding according to plan. A third fighter squadron was activated in 1984, and plans are being made for an additional KC-130 squadron in 1986. "Front-line" aircraft released from the Active force as they transition to new systems are being placed in the 4th Marine Aircraft Wing. This should not imply that the Corps is satisfied with this level of Reserve upgrade. These aircraft are aging, and there are acknowledged shortages, especially in attack helicopters and aerial refuelers. Marine acquisition plans are addressing these shortages and are effecting system modernization by transitioning Reserve squadrons immediately following the Active force upgrade to such aircraft as the F/A-18 and MV22A. The Marine Corps now intends to upgrade all Reserve fighter and some attack squadrons to the F/A-18.

Manpower and equipment are only a portion of the readiness equation. It is training that cements the relationship and transforms the individual Marine and his unit into combat power. Mobilization training, essential in the Reserve, is routinely tested with a system of "no-notice" mobilization tests which ensures these capabilities are maintained. During POWDER RIVER 84, which was essentially a command post communications exercise at the JCS level, the Marine Corps actually moved units and individuals to their gaining commands through designated stations of initial assignment. Some of these units and individuals also participated in actual exercises overseas.

Combat training in the Reserve has taken a new direction, and home centers are no longer the focal point. In 1984, 25,000 Marine reservists trained in exercises around the world from Puerto Rico to Korea. The Active/Reserve training relationship is beginning to mature, and the direction is sound. The Corps will continue to

pursue increased Reserve integration into major Active force exercises.

Evidence of the success of the Corps' Total Force training policies can be readily seen by the fact that a Reserve squadron, VMFA-112 in Dallas, competing with all Active and Reserve fighter squadrons, was designated the Marine Corps' Fighter Squadron of the Year for 1984. Additionally, in August, the first brigade-sized Reserve landing since the Korean War was conducted.

The Marine Corps has substantial capability in its Reserve. Marrying their civilian pursuits with the needs of the Service, these "Citizen Marines" are a great source of pride in peacetime and, if called upon, will be an indispensable source of strength for the national defense as part of the Marine Corps Total Force.

OPERATIONAL PERFORMANCE

In my report last year I stated that the Marine Corps' top operational priority was readiness. I would like to reiterate that the operational readiness of our Fleet Marine Force units to respond rapidly throughout the entire spectrum of conflict continues to be the Marine Corps' top priority. Our emphasis on readiness is apparent in the array of Marine air-ground task forces which are fully combat ready and prepared for immediate contingency deployments.

The combat readiness and ultimate capability of our units are dynamic and perishable commodities dependent on manning by qualified personnel, sufficient combat and combat support equipment; realistic training; and, perhaps most important, the Marine Corps' uncompromising standards of leadership. In each of these areas we have continued to improve. A balanced, intensive, challenging training program integrates personnel and equipment in realistic training exercises conducted throughout the world. The effectiveness of this training is measured by the Marine Corps Combat Readiness Evaluation System. This demanding regimen periodically measures the performance of Fleet Marine Force units against standards established for all aspects of contemporary warfare. The final ingredient of the readiness equation, leadership, continues to be

unmatched. Increased tour length for battalion commanders has improved commandership. Emphasis on professional education for young leaders has enhanced the performance and stability of our forces.

TRAINING

The Marine Corps' training goal is to provide Marines realistic, challenging training that prepares them to accomplish all assigned missions and tasks. In an effort to be more efficient and effective in achieving this goal, the Marine Corps is accelerating the development of collective and individual training standards for use within the operating forces and supporting establishment. The ability of unit commanders to achieve combat readiness by demonstrating high standards has long been the hallmark of Marine Corps training. From large scale amphibious exercises down to the training of individual fighting skills required for small unit tactics, the word is clear for both Regular and Reserve Marines: "Train as you would fight."

Since FY80, the number of major exercises in which the Marine Corps has participated has more than doubled. Concurrently, increases in the size of our exercises have resulted in more Marines receiving mission-oriented training on a more frequent basis. These training deployments away from home bases have also provided additional opportunities for training in varied terrain and climatic conditions that approximate those in potential contingency areas of the world. Typical Marine Corps training exercises are designed to accommodate small units as well as the largest Marine air-ground task forces.

Eight Active and two Reserve battalion-sized, air-ground training exercises, which include live-fire events, are conducted annually at the Marine Corps Air-Ground Combat Center, Twentynine Palms, California. In addition, one Reserve and nine Active battalions conduct mountain and cold weather exercises annually at the Marine Corps Mountain Warfare Training Center, Bridgeport, California. Combined arms exercises, along with all mission-

oriented training, are constantly refined and provide valuable lessons learned which are regularly incorporated into the latest developments in doctrine, tactics, and equipment. The desert and mountainous environments at Twentynine Palms and Bridgeport, respectively, provide the climate and terrain which parallel geographic areas of concern to the Marine Corps. The maneuver areas at Twentynine Palms permit integration of live ordnance for all of the weapons systems employed in the Marine Corps. Similarly, about 140 Marine aircrews train each year at a specialized tactics and weapons squadron at Yuma, Arizona, and provide not only a cadre of tactical experts at their units but also help to refine aviation tactics, doctrine and equipment.

Small unit training is the keystone of successful large unit operations. Annual Marine Corps-wide competition among rifle squads, advanced tactical training for aircrews, and frequent performance testing of battalions and squadrons provide the appropriate link between specialized training for individuals and the desired operational readiness of air-ground forces.

Our individual Marines are proud, disciplined, proficient, and loyal. "Semper Fidelis" is more than a motto; it is a way of life. Such motivation is molded and directed by the finest teachers in the world, beginning with our drill instructors at the recruit depots and continuing with our staff noncommissioned officers and officers in the Fleet Marine Force. Professional military education and skill progression training are provided at appropriate junctions of grade and billet assignments to develop the many facets of a military professional.

As the art of modern warfare becomes more sophisticated and prone to rapid change, the Marine Corps must take full advantage of new technology to modernize training programs and methods. In this regard, we shall use the products of technology with judgment and precision. Flight simulators have long been recognized and used to supplement actual flight training. Maintenance simulators are being developed and utilized with increased student learning at

significant cost savings. Since there is no substitute for live-fire exercises, sufficient quantities of ammunition must continue to be provided for that purpose. Simulation devices are being developed which will enhance the skills of riflemen; tank, TOW, DRAGON, and Stinger gunners; and artillery and mortar forward observers. Additionally, other devices are being developed which will enhance the skills of commanders and their staffs in tactical decision-making, command and control, and fire support coordination.

Application of automated data processing technology to training management procedures is expected to achieve a significant decrease in the amount of time required to accurately develop training standards for new weapon systems and tactics; to improve the capability of commanders to plan, budget, and allocate training resources; and to evaluate all training programs in a timely fashion. We have established internal procedures to ensure that the development of such training programs and methods coincides with the procurement of each new weapon system. Joint service review of technology for training purposes is required to eliminate duplication of effort and is enthusiastically supported by the Marine Corps.

We are not, however, going to forsake a well trained Marine Corps to achieve a low-cost training program. While we are making use of the best that technological advances can provide in the area of training support, the Marine Corps remains dedicated to maintaining a fully capable and highly trained combat force ready to perform in any contingency. It is to that end that all of our training effort is directed.

FORWARD DEPLOYMENTS

Our forward posture world-wide, in support of national policy, allows us to respond to any international crisis when directed by the National Command Authority.

II MAF is the major operational command on the east coast and continuously has a MAU forward-deployed in the Mediterranean Sea. II MAF also deploys elements to the Atlantic Ocean and Caribbean Sea. The 28th MAU, for example, makes periodic deployments to the

Caribbean to demonstrate United States presence while the 26th MAU makes an annual deployment to Norway.

III MAF is forward-based in Japan and Hawaii and deploys the 31st MAU in the Western Pacific and Indian Ocean. Beginning in February 1985, I MAF, based at Camp Pendleton, will deploy a MAU to the Western Pacific, supporting III MAF with its MAU commitment.

Our three MAF's can also provide air alert battalions which give us the capability to rapidly reinforce our forward-deployed units should the need arise. Additionally, in an effort to improve the overall combat capabilities of the Navy-Marine Corps team, the superb aviation interoperability initiative which began last year will accelerate. FY86 will witness the first two of four Marine A-6E squadrons assigned to deployed carrier air wings. Two Marine F/A-18 squadrons will already be aboard. U.S. Navy A-7 squadrons will concurrently deploy to WestPac in support of Marine ground forces on a continuing basis. This highly successful mutual support initiative, which began last year, has been an overwhelming success. It promises to vastly improve the flexibility and effectiveness of your Naval forces.

While deployed, these MAGTF's conduct operations and training exercises designed to improve the Marine Corps' ability to operate with the other Services and our allies. We train hard so that when called on, we will be prepared. We will continue to be ready, whether we are providing humanitarian assistance or executing a contingency mission.

FISCAL RESPONSIBILITY

The financial resources we are requesting for FY86 will support the requirements and programs discussed throughout this statement. This budget increases our readiness by fully implementing the MPS strategic mobility enhancement program, by continuing the modernization of our battlefield equipment for the Active and Reserve forces, and by narrowing the gap toward our targeted sustainability objectives.

A summary of financial resources by appropriation and authorization request which makes up the Marine Corps FY86 budget to support the programs and requirements discussed during this statement is displayed in Appendix II.

In conclusion, I would like to reaffirm the commitment of your Marine Corps to jealously guard the trust and confidence of the Congress and the American people. You can be assured that with the improved weapons, mobility, sustainability, and command and control assets provided, soundly led, properly trained, quality Marines will be ready to respond when called. The Marines, as America's Force-in-Readiness, provide the flexibility to enter the spectrum of conflict at any point and produce the required results.

As Marines, we have the unique capability, unmatched anywhere in the world today, to make a forcible entry from the sea with a fully integrated, mission-tailored, combined-arms, self-sustaining air-ground team. We enable our country to keep the qualitative edge needed to provide a decisive, flexible, credible response by amphibious forces in global crises.

Together, we prepare for the call that may or may not come--the call to "Land the landing force." As Marines, we do not determine when or if that call will come. I can assure you, however, that, with your support, we are ready and will remain ready to respond to that call. At the same time, we continue to share the hope that the call will not be sounded.

In light of Soviet policies and unprecedented military growth, the need for the United States to be able to establish maritime superiority has never been greater. Because of your support, we continue to improve our amphibious capability, and needed modernization programs are now well underway. With continued support, we will provide the maximum defense for each dollar invested in the Marine Corps.

For 209 years, Marines have served this nation well and faithfully. I assure you, that tradition will continue.

APPENDIX I
ENHANCEMENT PROGRAMS

TABLE I - I

GROUND MOBILITY ENHANCEMENTS

Light Armored Vehicle (LAV)	• Lightweight, flexible, agile fighting vehicle • Firepower-intensive organization 147 LAV's/LAV battalion (CY83) • Helicopter transportable • Enhanced strategic transportability
Landing Vehicle Tracked LVT7A1	• Service life extension program began 1982 • Extends use until 1990's • New engine, non-integral fuel tank, all electric weapons stations • 327 new LVT's for MPS
Armored Vehicle Launched (AVLB) Bridge	• Eliminates critical shortfall in assault Gap Crossing Capability • Organic to Tank Battalion • Capable of pacing with Armor and AAV Units

TABLE I - II

INFANTRY ENHANCEMENTS

Smaller/Firepower Intensive	• Personnel reduced at battalion level • Firepower up 25%
Improved Small Arms	• .50 Cal MG--8 per battalion; procured FY82-83 (IOC FY83) • Shoulder-Launched Multipurpose Assault Weapon (SMAW)--18 per battalion; procurement FY84-89 • Squad Automatic Weapon (SAW)--68 per battalion; procurement FY82-87 (IOC FY84) • M-16 Product Improvement Program (PIP); procurement FY82-89 (IOC FY84) • 9mm Pistol --- Beretta M 92SBF, 9mm Pistol --- replaces the current .38 and .45 caliber pistols --- increased range, lethality, safety, interoperability within NATO --- procurement FY85-89 (IOC FY86) • M60E3 7.62mm MG PIP; Procurement FY84-85 (IOC FY85) • MK-19 40mm Grenade Launcher--12 per infantry battalion; procurement FY82-87 (IOC FY85)
Mortar Enhancements	• 181mm--proposed procurement FY85-88 (IOC w/LAV FY86, IOC w/other FMF units FY89) • Lightweight company mortar deliveries completed FY83

TABLE I - III

ANTI-ARMOR ENHANCEMENTS

Tube-Launched Optically- Tracked, Wire-Guided Missile (TOW)	• 144 TOW per division; procurement FY80-86 (IOC FY84) • Phase I TOW procurement complete FY81; 5" warhead and extended range to 3750m (IOC FY87) • Phase II procurement began FY81; 6" TOW warhead, extended range and electrical optical countermeasures (EOCM) (IOC FY84) • Night sights--144 per division; procurement FY79-87 (IOC FY84)
DRAGON	• 8 additional per battalion; total 32 (IOC FY84) • Night sights--144 per division; procurement FY79-82 (IOC FY84)
Tanks	• M60A1--end of service life late 1980's • FY88 funds planned for replacement of M60A1 with M1A1 • Enhanced lethality, mobility, and survivability
Air Delivered	• Modern armor threat necessitates air delivered anti-armor weapons which offer increased aircraft survivability and target lethality • Near-term, state-of-the-art, anti-armor weapons being pursued for both fixed wing and helicopters • Laser Maverick--fixed wing PGM (IOC FY85) • Hellfire--helicopter PGM (IOC FY86) • GATOR--area/area denial weapon (IOC FY96) • 25mm multipurpose gun for the AV-8B (IOC FY85)
Light Anti-Armor Weapons	• Continue to participate with Army in LAW evaluation program • Interested in most cost effective system that meets USMC requirement • Monitor Army's M72 PIP • Develop anti-armor round for the SMAW (IOC FY88)

TABLE I - IV

ARTILLERY ENHANCEMENTS

Conversion to M198	◦ New improved structure transition began in FY83; procurement FY79-82 and FY86-87 ◦ 105mm howitzer reduction of 162; ◦ 155mm howitzer increase of 192
Additional 155mm (SP)	◦ Increase of 30 tubes--3 batteries by FY86; total 5 batteries by FY89
Addition of Target Acquisition Battery	◦ One each in FY85, 87, and 88
Precision Guided Projectiles	◦ Modular Universal Laser Equipment (MULE) procurement FY82-85 (IOC FY86) ◦ Copperhead--procurement programmed (IOC FY86)
Family of Scatterable Mines (FASCAM)	◦ Area Denial Artillery Munition (ADAM) (IOC FY82), anti-personnel mines, and Remote Anti-Armor Mine (RAAM) anti-tank mines--procurement FY81 (IOC FY83)
Battery Computer System	◦ Procurement FY86 (IOC FY87)

TABLE I - V

AVIATION ENHANCEMENTS

TACAIR	◦ AV-8B--responsive, effective CAS ◦ A-6F--effective all-weather, deep-strike medium bomber ◦ F/A-18--superior fighter/bomber, force multiplier ◦ AH-1T--improved attack helo, T700, Hellfire capable ◦ CH-53E--free world's most capable heavy lift helo
Weapons	◦ Laser Maverick--PGM for CAS ◦ Hellfire--Anti-armor helo delivered PGM ◦ I²R Maverick--deep air support weapon
RDT&E	◦ MV-22A (Osprey)--self deployable, medium lift assault transport with strategic and tactical implications ◦ Helo development--T700 enhanced engine for AH-1T; Hellfire MOD for AH-1J/AH-1T Cobras; helo night vision enhancements
Airspace Command & Control and Missiles	◦ AN/TYQ-23--command and control of airspace, aircraft, and missiles ◦ IHAWK--Medium range anti-air missile ◦ Stinger--shoulder-launched surface to air missile
Reserve Modernization	◦ A-4M--light attack aircraft to Reserves as AV-8B enters active component ◦ F-4N/S--superb fighter/attack aircraft

TABLE I - VI

COMBAT SERVICE SUPPORT ENHANCEMENTS

Logistic Vehicle System (LVS)	• Four rear body units; container hauler wrecker, dropside • Off road mobility • 60" fording capability • Replaces aging vehicles such as 10-ton and other assets together with various trailers and dolly converters • Fielding commences 3rd Qtr FY85
High Mobility Multi-purpose	• Enhanced TOW carrier • Weapons Platform for MK-19 40mm • Replaces 8MT vehicles/trailers in Marine division • Replaces all communication vehicles • 26,000 current Marine Corps vehicles/trailers replaced by about 14,000 HMMWV's (IOC FY85)
Commercial Utility Cargo	• Replaces the M880 • Three body variants (a) Utility (b) Cargo (c) Shelter carrier
5-Ton Truck M939	• Replaces current overaged 2 1/2- and 5-ton tactical fleets • Five configurations • Prime mover for M198 Howitzer
Field Logistic System (FLS)	• Exploits the benefits of containerization • Designed around international dimensional standards • Reduces manpower, system costs, and shipping space requirements • Five major subsystems • Enhances logistics support system and readiness posture
Medium Girder Bridge	• Lightweight, hand-erectable, easily transportable, and rapidly employable girder type bridge of welded aluminum alloy • 100-ft. spans or 162-ft. spans with link reinforcement set • 9 bridges per company (hand erectable by 4-or 6-man teams)

TABLE I - VII

COMBAT ENGINEER ENHANCEMENTS

Improved Counter Mine

- ° M58 Trailer Mounted Line Charge System--assault minefield breach capability for Tank and Engineer Bn's (IOC FY85)
- ° M59 Mine Clearance System Kit--assault mine breach from surface zone and inland from AVV Bn's (IOC FY85)
- ° M60 Track Width Mine Plow--assault minefield breach capability for M60 Tank (IOC FY86)
- ° Catapult Launched Fuel Air Explosive (CATFAE) will provide an amphibious on-the-move countermine capability to neutralize pressure/tilt-rod mines in surf zone and ashore (IOC FY91)
- ° Vehicle Magnetic Signature Duplicator (VEMASID)--projects magnetic field causing magnetic mine fuse logic to activate and harmlessly detonate mines ahead of vehicles (IOC FY90)

APPENDIX II

FISCAL

TABLE II-I

APPROPRIATION/AUTHORIZATION REQUEST

(\$ IN MILLIONS)

<u>APPROPRIATION TITLE</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>
Military Personnel, Marine Corps	4,967.1	5,217.4	5,297.6
Reserve Personnel, Marine Corps	271.8	290.0	306.0
Operation & Maintenance, Marine Corps	1,650.9	1,667.4	2,035.8
Operation & Maintenance, Marine Corps Reserves	58.8	61.6	66.9
Procurement, Marine Corps	1,836.7	1,726.8	2,182.6
Marine Corps Stock Fund	34.9	42.7	63.0

TABLE II-II

END STRENGTH AUTHORIZATION REQUEST

(\$ in 000's)

<u>CATEGORY</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>
Active Duty End Strength	198.3	199.5	201.7
Selected Reserve Average Strength	40.2	41.9	43.6
Civilian Personnel End Strength (USMC Portion of DON Request)	21.7	22.1	22.5
Average Military Student Training Load, Active	20.3	20.8	21.6
Average Military Student Training Load, Reserve	3.4	3.8	3.6

PREPARED STATEMENT OF REAR ADM. DANIEL L. COOPER

DIRECTOR OF OFFICE OF BUDGET AND REPORTS

AND

DIRECTOR OF FISCAL MANAGEMENT DIVISION

Mr. Chairman and Members of the Committee:

I am pleased to appear before you today to present the Department of the Navy's budget request for FY 1986. This budget supports a capable and sustainable force of ships, squadrons and personnel.

The FY 1986 budget represents an optimum balance among all of the resource categories. We are requesting \$104.9 billion in Total Obligational Authority (TOA). Outlay estimates are \$94.8 billion. The TOA amount is only \$8.4 billion higher than the FY 1985 appropriated amount and \$3.5 billion higher than last January's request. The increases are primarily in those areas supporting sustainability and modernization. In the first few years of President Reagan's defense rebuilding program, we concentrated our resources on force building, as the long lead-time for ship construction required an expeditious start; and on readiness, to ensure that today's fleet is as prepared as possible. These investments have borne fruit. We will attain the 600-ship Navy by the end of the decade, and readiness indicators are rising steadily. In building this budget, we recognized that the expanded force must be supported by enough weapons and ordnance. Nearly ten percent of the FY 1986 request funds sustainability. In 1980, sustainability absorbed only four percent of the budget. We are requesting a \$1.3 billion increase in Weapons Procurement, Navy and a \$1.3 billion increase in Other Procurement, Navy. These appropriations support sustainability through procurement of missiles, torpedoes, mines, sonobuoys and other ordnance. Additionally, the FY 1986 budget recognizes the need to ensure that our forces remain capable of countering projected threats. We are requesting substantial growth in Research, Development, Test and Evaluation to provide modern technology.

CHART 1

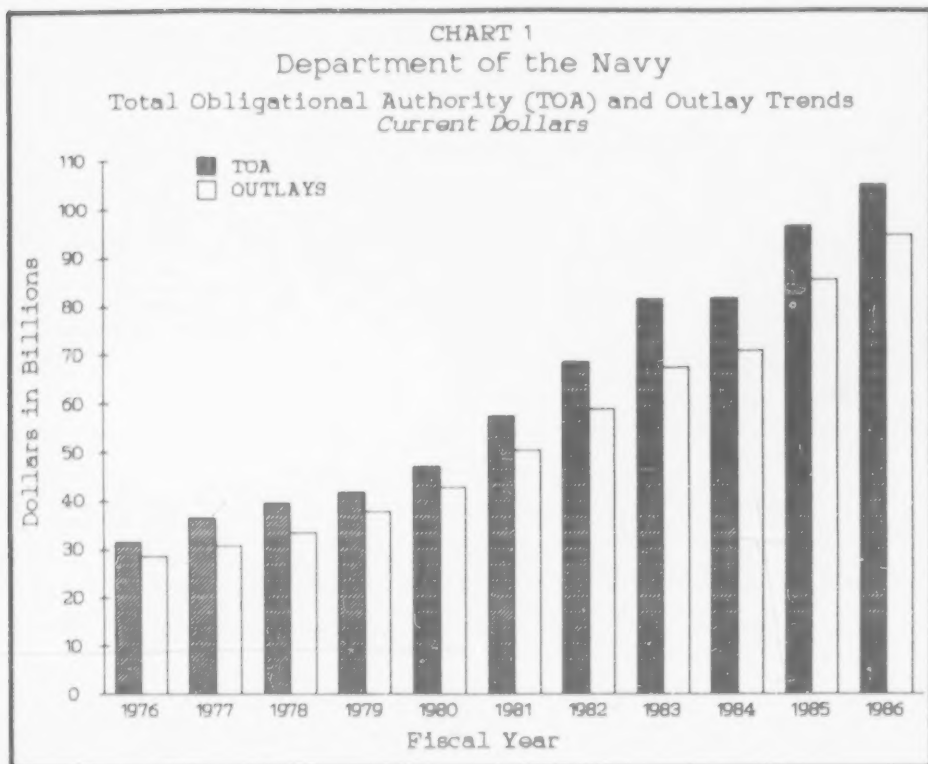
FY 1985 REVISED ESTIMATES

Before discussing the FY 1986 details, I would like to briefly describe the FY 1985 budget, which totals \$96.5 billion. The Congress enacted a budget of \$95.6 billion. Of the increase between the enacted amount and the FY 1985 figures submitted with the FY 1986 budget request, \$895.5 million is for a pay supplemental requesting funds for a three and a half percent civilian pay raise beginning January 1985, a four percent military pay raise for all military members, except those in paygrade E-1 with less than four months active duty, beginning 1 January 1985; and a three percent pay raise for all military members beginning 1 July 1985. The revised estimates also include net transfers of \$13.9 million for high priority programs developed since formulation of the FY 1985 budget. These transfers are required to accommodate a Congressionally-approved change to BAQ rates in the military personnel appropriations and to fund a classified program in the Research, Development, Test and Evaluation, Navy (RDT&E,N) account. The transfers will be effected through reprogramming of existing funds in lieu of submission of a supplemental request.

COMPARISON OF FY 1985 AND FY 1986 ESTIMATES

The chart below compares the FY 1985 revised budget request with the FY 1986 Congressional budget submission and shows an increase of \$8.4 billion. The changes to the military personnel appropriations accommodate increases in end strength directly related to fleet support, recruiting and advertising resources, Basic Allowance for Quarters and Variable Housing Allowances, and

PCS initiatives. The additional funding in the operation and maintenance appropriations includes increased modernization and outfitting of general purpose forces and an increase in reserve naval mobile construction battalions.



The increase in the procurement appropriations of \$3.4 billion will allow us to procure 322 aircraft, an increase of 23 over the FY 1985 level, 11,334 missiles and torpedoes, an increase of 1390, and 23 new construction ships, an increase of one. Five ships will also be converted, two more than in FY 1985. Despite the increase in the number of ships procured, the ship construction appropriation decreases slightly from FY 1985 to FY 1986. The increase in the other procurement appropriation provides for improvements to readiness and sustainability.

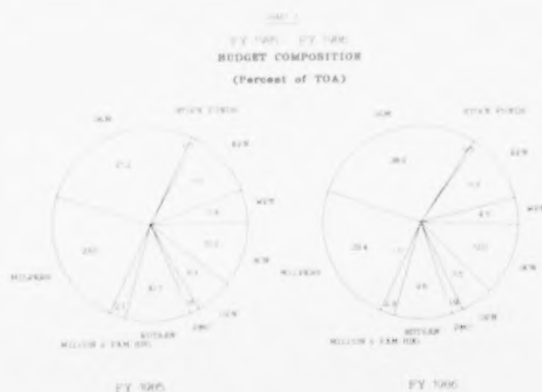
The \$2.0 billion increase in research and development is mainly in tactical programs. The major R&D increases occur in the A-6, F-14, and V-22 OSPREY programs.

The \$0.6 billion increase in military construction is largely in major mission support and training facilities with the most substantial increase for support required by the TRIDENT program.

CHART 2
DEPARTMENT OF THE NAVY
COMPARISON OF TOA
FY 1985 AND FY 1986
(IN MILLIONS OF DOLLARS)

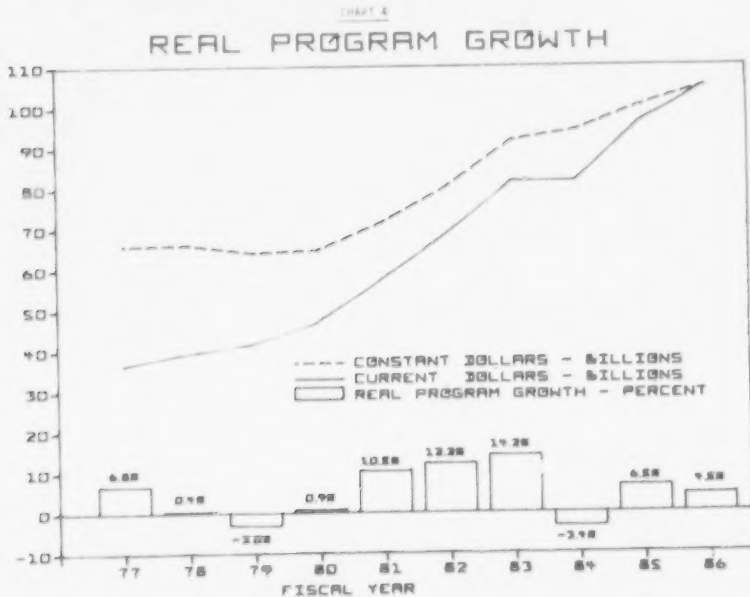
Appropriation	FY 1985	FY 1986	%CHANGE	\$CHANGE
MPN	16,164	17,221	6.5%	1,057
MPMC	4,967	5,217	5.0%	250
RPN	1,156	1,354	17.1%	198
RPMC	272	290	6.6%	19
O&MN	25,335	25,798	1.8%	463
O&MMC	1,651	1,667	1.0%	16
O&MNR	829	955	15.2%	126
O&MMCK	59	62	5.1%	3
APN	10,904	12,063	10.6%	1,159
WPN	4,354	5,628	29.3%	1,274
SCN	11,584	11,412	-1.5%	-172
OPN	5,342	6,601	23.6%	1,259
PMC	1,837	1,727	-6.0%	-110
RDT&EN	9,274	11,264	21.5%	1,990
MCON	1,535	2,085	35.8%	550
MCNR	61	52	-14.8%	-9
FHN&MC	659	723	9.7%	64
Construction	117	154	31.6%	37
Operation/Debt	542	569	5.0%	27
NSF	473	716	51.4%	243
MCSF	35	43	22.9%	8
DON TOTAL:	96,490	104,877	8.7%	8,387

The composition of the FY 1986 budget request is compared to that of the FY 1985 budget in the next chart. Increases in the percentages of the budget requested for Other Procurement, Navy and Weapons Procurement, Navy, reflect the emphasis on sustainability items funded in those appropriations. Research, Development, Test and Evaluation shows significant growth, reflecting the increase in funding for tactical weapons research. Two funding categories which have a decreased share of the budget in FY 1986 are Operations and Maintenance and Shipbuilding and Conversion. The primary cause of the shift in Operations and Maintenance is the inclusion in the budget of the proposed 5% civilian pay cut. The small reduction in the shipbuilding account is caused in part by our ability to reflect contract savings in the pricing of the SSNs, CGs, LSDs and MSHs and in part by a change in the mix of new construction ships requested in FY 1986.



REAL PROGRAM GROWTH

In real terms, the FY 1986 budget will increase by 4.5 percent over the FY 1985 estimates. The significance of this growth rate, or any other single year growth rate, can only be evaluated by analyzing the trends in real program growth for several years. Real growth for the Department of the Navy has averaged 5.1% from FY 1979 to FY 1986. The substantial growth during the FY 1981 to FY 1983 period, necessitated by low or negative growth in FY 1980 and prior years, is followed by modest growth from FY 1984 through FY 1986. The chart below displays the current and constant dollar and real program growth trends from FY 1979 to FY 1986.



The next chart summarizes the forces that make up the Navy. The budget provides for a total deployable battle force by the end of FY 1986 of 555 ships, a net increase of 13 ships over the FY 1985 level of 542 ships. New ships joining the deployable forces in FY 1986 include one TRIDENT submarine, three nuclear attack submarines, two guided missile cruisers, two guided missile frigates, one dock landing ship, one salvage ship, four mine countermeasure ships and five towed array surveillance ships. In addition, the budget provides for the return to operation of the third battleship, USS MISSOURI. The continued steady growth in deployable battle forces will allow us to attain the 600 ship Navy in FY 1989. The number of Navy strategic sealift ships increases to reflect the availability of additional commercial ships for the Ready Reserve Fleet and formation of the third MPS ship squadron. Navy and Marine Corps average operating aircraft in FY 1986 total 4,918, an increase of 110 aircraft over FY 1985. New squadrons standing up in FY 1986 include two Navy F/A-18, three SH-60B, and one EA-6B.

Marine Corps ground forces are budgeted in FY 1986 to increase by one Light Armored Vehicle Battalion, three heavy anti-tank missile platoons (TOW), one 155mm self-propelled battery, and activation of a Marine amphibious brigade headquarters. Changes in Marine Corps aviation programs include the continued transition of the AV-8A to the AV-8B as well as the transition of F-4s to F/A-18s. Additional manning of two bulk fuel platoons in the support forces is provided in the FY 1986 budget.

Department of the Navy military manpower in support of these force levels include Navy and Marine Corps active and reserve personnel end strength totalling 970,614 personnel.

The level of Department of the Navy civilian employment remains relatively stable over the budget years. The FY 1986 end strength estimate of 340,799 provides for moderate growth of 1,808 over FY 1985 employment, but remains below FY 1984 levels. FY 1986 initiatives include enhanced physical security for bases and stations, conversion of certain administrative billets from military to civilian, increased oversight of hardware acquisition and military

construction, and additional staffing for Marine Corps activities and aircraft rework facilities. These increases are partially offset by workload-driven reductions in shipyard manning levels.

CHART 5
DEPARTMENT OF THE NAVY
SIGNIFICANT FORCE AND MANPOWER FACTORS
FY 1986 BUDGET

	FY 1984	FY 1985	FY 1986
TOTAL DEPLOYABLE BATTLE FORCE SHIPS	523	542	555
STRATEGIC FORCES	41	43	44
BATTLE FORCES	425	433	439
SUPPORT FORCES	45	52	54
MOBILIZATION FORCES	12	14	18
STRATEGIC SEALIFT SHIPS	84	100	112
NTPF SHIPS	18	17	12
MPS SHIPS	1	10	13
RRF SHIPS	65	73	87
AVERAGE OPERATING AIRCRAFT*	4,687	4,808	4,918
NAVY	3,353	3,458	3,543
MARINE CORPS	1,334	1,350	1,375
MARINE CORPS FORCES			
MARINE CORPS DIVISIONS (ACTIVE/RES)	3/1	3/1	3/1
MARINE CORPS AIR WINGS (ACTIVE/RES)	3/1	3/1	3/1
ACTIVE MILITARY PERSONNEL (END YEAR)	760,852	769,600	785,800
NAVY	564,638	571,300	586,300
MARINE CORPS	196,214	198,300	199,500
RESERVE PERSONNEL (AVERAGE)	153,672	164,050	176,300
NAVY	113,245	123,900	134,400
MARINE CORPS	40,427	40,150	41,900
CIVILIAN PERSONNEL (END YEAR)	342,082	338,991	340,799
NAVY	320,573	317,270	318,675
MARINE CORPS	21,509	21,721	22,124

*Includes Reserve Aircraft

OPERATING APPROPRIATIONS (ANNUAL ACCOUNTS)

The anticipated future military retirement cost is again budgeted in the military personnel appropriations, as it was in FY 1985. The following discussion on FY 1985 funding assumes passage of the pay supplemental. A 5 percent pay cut for civilian personnel is included in the budget request.

Also included is the 4% pay raise beginning 1 January 1985 for officers and for enlisted personnel with over four months service, and the 3% pay raise beginning 1 July 1985 for all members. The annualized cost of these pay raises is budgeted in FY 1986.

Military Personnel, Navy

The FY 1986 request of \$17.2 billion will support an end strength of 586,300, an increase of 15,000 from the FY 1985 authorized program. The strength increase is primarily tied to direct fleet readiness: of the net increase, over 14,000 are to man ships and aircraft squadrons (including precommissioning crews) and other direct fleet support requirements. These include increases for repair facilities such as SIMAs and AIMDs, and increases for amphibious forces such as explosive ordnance disposal units, special warfare units, and assault craft units.

Real program growth for the Military Pay, Navy appropriation is 1.2% in FY 1986. Chart 6 provides financial and personnel strength data for this appropriation.

CHART 6
DEPARTMENT OF THE NAVY
MILITARY PERSONNEL, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
PAY OF OFFICERS	2,642.5	3,803.0	3,991.9	+188.9
PAY OF ENLISTED	7,490.5	11,012.8	11,755.3	+742.5
PAY OF MIDSHIPMEN	33.7	33.9	33.7	-.2
SUBSISTENCE	695.1	738.1	785.9	+47.8
PCS TRAVEL	518.1	526.5	608.9	+82.4
OTHER COSTS	42.9	49.8	45.7	-4.1
TOTAL: MILITARY PERSONNEL, NAVY	11,422.8	16,164.1	17,221.4	+1,057.3
END STRENGTH				
OFFICERS	68,856	70,973	72,077	+1,104
ENLISTED	491,288	495,802	509,698	+13,896
MIDSHIPMEN	4,494	4,525	4,525	-
TOTAL: END STRENGTH	564,638	571,300	586,300	+15,000

Military Personnel, Marine Corps

The FY 1986 budget request of \$5.2 billion will support an active duty end strength of 199,500, an increase in active force structure end strength of 1,200 to enhance readiness, mobility and firepower. This effort is highlighted by the addition of three heavy anti-tank missile (TOW) platoons,

a 155mm self-propelled artillery battery, an additional general support artillery battalion, and the activation of the final light armored vehicle battalion. Major aviation changes include continuation of squadron transitions to newer, more capable aircraft.

Real program growth for the Military Personnel, Marine Corps appropriation is -.2%. Chart 7 provides summary financial and personnel strength data for the Military Personnel, Marine Corps appropriation.

CHART 7
DEPARTMENT OF THE NAVY
MILITARY PERSONNEL
MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
PAY OF OFFICERS	701.7	1,027.6	1,055.1	+27.5
PAY OF ENLISTED	2,364.4	3,493.9	3,680.5	+186.6
SUBSISTENCE	243.3	253.7	266.3	+12.6
PCS TRAVEL	183.2	168.3	192.4	+24.1
OTHER COSTS	23.8	23.6	23.1	-.5
TOTAL: MILITARY PERSONNEL, MARINE CORP	3,516.3	4,967.1	5,217.4	+250.3

END STRENGTH

OFFICERS	20,366	20,266	20,266	-
ENLISTED	175,848	178,034	179,234	+1,200.0
TOTAL END STRENGTH	196,214	198,300	199,500	+1,200.0

Reserve Personnel, Navy

The funding request of \$1.4 billion in FY 1986 will support an average reserve strength level of 134,400, an increase of 10,500 over the FY 1985 level. The increase in the average strength level will allow us to expand the Naval Reserve Force (NRF) and the NRF maintenance facilities and to attain the Navy Manpower Mobilization System (NAMMOS) strength level by FY 1988.

In this budget, the RPN appropriation will assume the funding responsibility for the TEMAC (Temporary Active Duty) program which covers the cost of reserve recruiters and reserve support personnel. This program was previously funded by the MPN appropriation. The FY 1985 and FY 1986 funding reflects the establishment of the new Education Assistance Program for Reservists.

Real program growth in the Reserve Personnel, Navy appropriation is 11.3%. Chart 8 provides summary financial and personnel strength data for this appropriation.

CHART 8
DEPARTMENT OF THE NAVY
RESERVE PERSONNEL, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
UNIT AND INDIVIDUAL TRAINING	386.2	602.0	667.3	+65.3
OTHER TRAINING AND SUPPORT	371.4	554.1	686.3	+132.2
TOTAL: RESERVE PERSONNEL, NAVY	757.6	1,156.1	1,353.6	+197.5
AVERAGE STRENGTH				
SELRES	97,503	106,150	112,870	+6,720
SEA/AIR MARINER	3,067	3,493	4,042	+549
FULL TIME ACTIVE DUTY (TARS/TEMACS)	12,675	14,257	17,488	+3,231
TOTAL: AVERAGE STRENGTH	113,245	123,900	134,400	+10,500

Reserve Personnel, Marine Corps

The FY 1986 budget request of \$290.0 million will support an increased reserve force structure and drilling average strength of 1,750 in FY 1986. We will achieve full wartime strength by FY 1990. These strength increases are programed for starting up new units, bringing units out of cadre status and filling personnel deficiencies in existing units such as the 4th Medical and Dental Battalion, a KC-130 squadron, and artillery units.

The FY 1985 and FY 1986 funding reflects the establishment of the new Education Assistance Program for Reservists.

Real program growth for the Reserve Personnel, Marine Corps appropriation is 1.5%. Chart 9 contains summary financial and personnel strength data for this account.

CHART 9
DEPARTMENT OF THE NAVY
RESERVE PERSONNEL, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
UNIT AND INDIVIDUAL TRAINING	127.5	190.1	201.1	+11.0
OTHER TRAINING AND SUPPORT	44.7	81.7	88.9	+7.2
TOTAL: RESERVE PERSONNEL, MARINE CORPS	172.2	271.8	290.0	+18.2
TOTAL AVERAGE STRENGTH:	40,427	40,150	41,900	+1,750

Operation and Maintenance, Navy

The FY 1986 request for the Operation and Maintenance, Navy appropriation is \$25.8 billion. This appropriation finances the day-to-day costs of operating naval forces, including fuel, supplies, and the cost of maintaining ships, aircraft (including Marine Corps aircraft), and other weapons systems, as well as the support establishment ashore for naval forces. The FY 1986 request represents an increase over the current estimate for FY 1985 of \$463 million. Major changes between the years include transfers related to proposed revisions to the Department's expense/investment criteria (+\$210.7 million) and the Administration's proposed 5 percent decrease in civilian pay rates (-\$116.3 million). Other major changes between FY 1985 and FY 1986 are discussed below.

The Strategic Forces budget activity provides for the financial requirements for the Navy's Fleet Ballistic Missile Force. The strategic forces Ship Maintenance and Modernization program decreases in FY 1986, reflecting the impact of one fewer FBM submarine and one fewer support ship in the overhaul program. The TRIDENT program increases, caused by the Kings Bay development and the increasing number of operational submarines.

The Navy's mission in General Purpose Forces is to provide combat-ready fleet forces capable of ensuring control of the sea and air in the event of war. This program includes 483 ships, 3,403 average operating aircraft, and a network of shore installations and commands. These forces deploy world-wide in support of our national objectives and represent a ready, potent, and visible force to deter aggression globally at any required level.

The flying hour program provides 1,440 thousand hours to allow combat aircrews (both Navy and Marine) to maintain their proficiency to conduct aircraft operations. Resources budgeted for the flying hour program in FY 1986 include the full year implementation of the aviation depot level repairable stock funding initiative, adjusted for the use of stock fund credits.

In the ship maintenance area, overhauls decrease by 18, including eleven combatants, reflecting the extension of the operating cycles of selected ships. One ship overhaul is in financial backlog at the end of FY 1986. We have been able to reduce the overhaul program by increasing by 28 the numbers

of selected restricted availabilities for ships on extended operating cycles and for certain amphibious and auxiliary types which are on phased maintenance. We continue to enhance combat readiness of the fleet with weapon system upgrades and survivability and safety alterations.

Program growth in Intelligence and Communications relates to increased levels of effort for telecommunications and encryption equipments, additional leased circuit requirements, and increased levels of oceanographic environmental prediction support. This growth is partially offset by termination of the GAPFILLER Fleet Satellite Communications System.

Airlift and Sealift increases in FY 1986 reflect the delivery and deployment of the third MPS squadron as well as the continued growth of the Ready Reserve Force (RRF) to 87 ships.

Both the growing population of major weapon systems and efforts to increase readiness cause increases in depot level maintenance, funded in Central Supply and Maintenance Activities. The transition of the rework of aviation depot level repairables to the Navy Stock Fund also affects this budget activity. The Aircraft Rework program also reflects cost avoidances stemming from initiatives recommended by the President's Private Sector Survey on Cost Control.

Additional personnel are budgeted in FY 1986 to improve physical inventory procedures and to support the Buy Our Spares Smart program. These efforts have been accelerated as a result of recommendations made by the President's Private Sector Survey on Cost Control task force. Personnel have also been added to improve physical security at Navy activities. Increased funding has been provided for items such as preservation and upgrade of the Inactive Fleet, and inactivation of three SSNs. The FY 1986 request also reflects a transfer from OPN of engineering and technical services related to support of undersea surveillance efforts, funding related to the revision of the expense/investment criteria, and funding to support the Environmental Restoration program, which was financed in a separate DOD-wide account in FY 1985.

Increases in Training, Medical and General Personnel Activities are the result of increases in the number of pilots being trained, transfer of TH-57 maintenance from central supply and maintenance (BA 7), and annualization of aviation depot level repairables for flight training. We have also included funds for increased recruiting and advertising.

Growth in Medical Support provides for additional clinical workload in Naval Medical Facilities which will improve wartime casualty care and to permit absorption of workload during peacetime that would otherwise result in a requirement for more expensive CHAMPUS funding as military strength increases. This strength change will also result in an increased workload at Civilian Operated Uniform Services Treatment Facilities. Other increases provide for additional training for medical personnel, wartime bed expansion to bring hospitals up to maximum bed capacity, and assumption of manpower costs related to the Tri-Service Medical Information System (TRIMIS) funded through FY 1985 by the TRIMIS Program Office.

The Administration and Associated Activities program funds the staff offices of the Secretary of the Navy and the Chief of Naval Operations and provides service-wide support in the financial, legal, and personnel areas. Increases are primarily for development and support of military manpower and personnel systems; to complete implementation of the Navy Manpower Engineering Program to achieve the Secretary of the Navy's goal of 100% of the shore establishment covered by staffing standards by December 1985; and a transfer from OPN caused by revision of the expense/investment criteria.

Real program growth in the Operation and Maintenance, Navy appropriation is .2%. Chart 10 provides summary financial data for this account.

CHART 10
DEPARTMENT OF THE NAVY
OPERATION AND MAINTENANCE, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985-FY 1986
<u>STRATEGIC FORCES</u>	<u>1,844.2</u>	<u>2,257.3</u>	<u>2,068.4</u>	<u>-188.9</u>
TRIDENT PROGRAM	87.0	124.0	123.5	-0.5
STRATEGIC WEAPON SYSTEMS	735.8	789.2	811.5	+22.3
SHIP OPERATIONS	115.2	127.8	120.4	-7.4
SHIP MAINTENANCE & MOD	745.2	1,003.5	796.7	-206.8
FLEET SUPPORT	80.4	100.1	109.0	+8.9
BASE SUPPORT	80.6	112.7	107.3	-5.4
<u>GENERAL PURPOSE FORCES</u>	<u>10,150.0</u>	<u>11,943.5</u>	<u>11,990.2</u>	<u>+46.7</u>
TACAIR/ASW OPERATIONS	1,551.4	2,261.1	2,280.9	+19.8
SHIP OPERATIONS	2,445.3	2,438.6	2,277.4	-161.2
SHIP MAINTENANCE & MOD	4,266.1	5,285.7	5,278.2	-7.5
COMBAT/OTHER WARFARE SUPPORT	129.4	139.6	150.1	+10.5
COMMANDS AND STAFFS	156.5	125.0	130.1	+5.1
FLEET SUPPORT	149.8	179.8	236.3	+56.5
CRUISE MISSILE	39.6	57.3	87.2	+29.9
BASE SUPPORT	1,411.9	1,456.4	1,550.1	+93.7
<u>INTELLIGENCE & COMMUNICATIONS</u>	<u>1,046.1</u>	<u>1,124.1</u>	<u>1,124.2</u>	<u>+0.1</u>
<u>AIRLIFT & SEALIFT</u>	<u>315.9</u>	<u>641.8</u>	<u>787.3</u>	<u>+145.5</u>
<u>CENTRAL SUPPLY & MAINTENANCE</u>	<u>5,988.4</u>	<u>6,303.2</u>	<u>6,538.6</u>	<u>+235.4</u>
AIRCRAFT MAINT & ENGINEERING	2,848.5	2,900.4	2,379.0	-521.4
SHIP WEAPON SYSTEM MAINTENANCE & ENGINEERING	1,373.5	1,486.8	1,766.7	+279.9
COMMUNICATIONS & ELECTRONIC MAINTENANCE & ENGINEERING	279.3	316.5	361.9	+45.4
FACILITIES MAINT & ENGINEERING	282.5	344.5	413.8	+69.3
SUPPLY SYSTEM OPERATIONS	1,211.5	1,236.9	1,283.9	+47.0
ASW MAINT & ENGINEERING	460.4	478.4	512.3	+33.9
CNM HEADQUARTERS	57.8	61.1	70.5	+9.4
NAVDAC/AIMSO	19.9	27.8	30.8	+3.0
REVOLVING FUND SUPPORT	-545.0	-549.2	-280.3	+268.9
<u>TRAINING, MEDICAL, & OTHER GENERAL PERSONNEL ACTIVITIES</u>	<u>1,988.7</u>	<u>2,351.7</u>	<u>2,519.3</u>	<u>+167.6</u>
<u>ADMINISTRATION</u>	<u>651.3</u>	<u>710.7</u>	<u>767.2</u>	<u>+56.5</u>
<u>SUPPORT OF OTHER NATIONS</u>	<u>2.4</u>	<u>2.5</u>	<u>2.5</u>	<u>0.0</u>
<u>TOTAL: OPERATION & MAINTENANCE, NAVY</u>	<u>\$21,986.9</u>	<u>\$25,334.7</u>	<u>\$25,797.7</u>	<u>+\$463.0</u>

Operation & Maintenance, Marine Corps

The FY 1986 budget request for Operation and Maintenance, Marine Corps (O&M,MC) of \$1.7 billion, an increase of \$16.5 million above the FY 1985 level, will support Fleet Marine Forces (FMF) of three active divisions, three aircraft wings and their normal combat support and combat service support units; the operation and maintenance of training bases; and the Marine Corps supply system.

The increase of \$16.5 million provides support for the standup of the second and third Maritime Prepositioning Ship (MPS) brigades. The request also provides increased support for the continued procurement of initial issue expense items for FMF units in combat and training operations. The budget provides increased support for base communications to support expanding Marine Corps Data Network requirements.

Chart 11 provides summary financial data for the Operation and Maintenance, Marine Corps appropriation. Real program growth for this appropriation is -1.3%.

CHART 11
DEPARTMENT OF THE NAVY
OPERATION AND MAINTENANCE, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
DEPOT MAINTENANCE	93.5	121.8	127.4	+5.6
6 MONTH UNIT DEPLOYMENT	22.7	22.3	21.3	-1.0
FMF SUPPORT	311.8	301.4	292.8	-8.6
FMF LOGISTICS SUPPORT	186.8	235.3	227.2	-8.1
BASE OPERATIONS	742.1	732.2	740.6	+8.4
TRAINING & EDUCATION	52.8	62.1	62.9	+.8
RECRUITING & ADVERTISING	49.6	53.1	57.6	+4.5
ADMIN & ASSOCIATED				
ACTIVITIES	90.1	102.1	114.3	+12.2
OTHER	10.6	20.6	23.3	+2.7
TOTAL: OPERATION AND MAINTENANCE, MARINE CORPS	1,560.0	1,650.9	1,667.4	+16.5

Operation and Maintenance, Navy Reserve

The FY 1986 Operation and Maintenance, Navy Reserve request of \$954.5 million is \$125.7 million above the FY 1985 current estimate of \$828.8 million. The increased funding level will provide for the following areas of significant growth: full year stock funding of Aviation Depot Level Repairables (AVDLRs); increased operating aircraft, maintenance and rework costs in support of a more modern mix of aircraft and of Squadron Augment Unit (SAU) and Master Augment Unit (MAU) programs; increased operations, maintenance and modernization costs due to continued growth in the Naval Reserve Force ASW Frigate and ARS (Salvage Ship) programs; and increased training, equipment and base operating support requirements as the Naval Reserve builds toward the Navy Manpower Mobilization System (NAMMOS) goal by FY 1988. In addition, the growth in the O&M,NR appropriation supports a growing Naval Reserve recruiting effort.

Chart 12 provides summary financial data for the Operation and Maintenance, Navy Reserve appropriation. Real program growth for this account is 11.9%.

CHART 12
DEPARTMENT OF THE NAVY
OPERATION AND MAINTENANCE, NAVY RESERVE
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	CHANGE FY 1985 - FY 1986
MISSION FORCES	365.1	478.4	552.7	+74.3
ATR RESERVE FORCES	213.3	285.1	322.3	+37.2
SHIP OPERATIONS AND SURFACE SUPPORT	54.4	59.9	67.8	+7.9
SHIP MAINTENANCE AND MODERNIZATION	97.4	133.4	162.6	+29.2
DEPOT MAINTENANCE	87.3	148.8	177.9	+29.1
AIRCRAFT MAINTENANCE AND SUPPORT	112.3	155.9	177.9	+22.0
NIF & NSF SUPPORT	-25.0	-7.1	-	+7.1
OTHER SUPPORT	171.4	201.6	223.9	+22.3
MAINTENANCE AND REPAIR OF REAL PROPERTY	36.7	43.9	37.4	-6.5
RECRUITING AND ADVERTISING	-	8.8	17.1	+8.3
BASE SUPPORT	134.7	148.9	169.4	+20.5
TOTAL: OPERATION AND MAINTENANCE, NAVY RESERVE	623.8	828.8	954.5	+125.7

Operation & Maintenance, Marine Corps Reserve

The FY 1986 budget request of \$61.6 million, an increase of \$2.8 million above the FY 1985 level, supports the day-to-day costs of operating the Marine Corps Reserve Forces, including the Fourth Marine Division/Wing Team, a Force Service Support Group and the Marine Corps Reserve Support Center. The request provides funds for travel for Military Occupational Specialty (MOS) training and training away from home sites as well as transportation of equipment and supplies for training. The request provides for additional training allowance equipment and supplies including the partial elimination of the current deficiency in Nuclear, Biological, Chemical defense equipment and body armor.

Chart 13 provides summary financial data for the Operation and Maintenance, Marine Corps Reserve appropriation. Real program growth for this appropriation is 1.0%.

CHART 13
DEPARTMENT OF THE NAVY
OPERATION AND MAINTENANCE, MARINE CORPS RESERVE
(IN MILLIONS OF DOLLARS)

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1985-FY 1986</u>
MISSION FORCES	24.6	29.3	30.3	1.0
DEPOT MAINTENANCE	1.6	1.7	1.7	-
OTHER SUPPORT	25.9	27.8	29.6	+1.8
BASE OPERATIONS	14.0	15.1	15.2	+.1
OTHER ACTIVITIES	11.9	12.7	14.4	+1.7
TOTAL: OPERATION AND MAINTENANCE, MARINE CORPS RESERVE	52.1	58.8	61.6	+2.8

Stock Funds

This program provides appropriated funds for the Navy and Marine Corps Stock Funds for the purpose of procuring secondary items for increases in peacetime operating stocks and for Prepositioned War Reserve (PWR) stocks.

The Navy Stock Fund (NSF) resources for peacetime operating stocks in FY 1985 and FY 1986 support force and equipment modernization and readiness initiatives. NSF PWR funds in FY 1986 will be used to procure material required to support ashore and afloat units at combat Marine Air Wings, various Advance Base Functional Components including deployed P-3 aircraft and Reserve Construction Battalions, medical supplies for Fleet Hospitals, and PWR stocks for afloat and shore units.

The Marine Corps Stock Fund (MCSF) resources for peacetime operating stock in FY 1985 and FY 1986 will be used for support of force and equipment modernization. Appropriations in FY 1986 for PWR will be used for PWR stocks of clothing (chemical, biological and radiological), combat rations and consumable repair parts for Marine Corps peculiar vehicles and equipments.

The following chart provides summary financial data for the Navy and Marine Corps Stock Fund requests:

CHART 14
DEPARTMENT OF THE NAVY
STOCK FUNDS
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985-FY 1986
<u>NAVY STOCK FUND</u>				
PEACETIME OPERATIONS				
FORCE AND EQUIPMENT MODERNIZATION	538.7	399.1	409.6	+10.5
READINESS INITIATIVES/ SUSTAINABILITY	51.8	10.6	46.2	+35.6
PREPOSITIONED WAR RESERVE				
FLEET SUPPORT ELEMENT	42.4	45.6	194.0	+148.4
OVERSEAS BASE ELEMENT	-	11.9	62.7	+50.8
FLEET HOSPITALS	-	5.0	3.0	-2.0
FLEET MARINE FORCES	-	1.1	1.0	-.1
TOTAL: NAVY STOCK FUND	632.9	473.3	716.5	+243.2
<u>MARINE CORPS STOCK FUND</u>				
PEACETIME OPERATIONS				
FORCE AND EQUIPMENT MODERNIZATION	-	3.5	1.6	-1.9
READINESS INITIATIVES/SUSTAINABILITY	-	-	-	-
PREPOSITIONED WAR RESERVE				
ORDNANCE/ENGINEER	7.1	8.8	12.7	+3.9
COMMUNICATIONS PARTS/GEN PROP	3.3	3.9	5.0	+1.1
CLOTHING & TEXTILE	10.4	12.9	17.6	+4.7
SUBSISTENCE	-	5.8	5.8	-
TOTAL: MARINE CORPS STOCK FUND	20.8	34.9	42.7	+7.8

This concludes my discussion of the operating accounts. I will next discuss the funding requested in the investment and development appropriations.

INVESTMENT AND DEVELOPMENT APPROPRIATIONS

This budget request includes \$51.6 billion in the nine Department of the Navy procurement and investment accounts. This amount is 49 percent of the Department's budget request. Increases in weapons procurement and in other procurement reflect our emphasis on improving the sustainability of our forces. There are also significant increases in research and development and in military construction.

Aircraft Procurement, Navy

In FY 1986, \$12.1 billion are requested to procure 322 aircraft, associated support requirements, aircraft modifications, spares and repair parts, aircraft support equipment and war consumables. The FY 1986 APN budget request provides for continued procurement of aircraft included in the FY 1985 budget and the procurement of the T-34C. The E-6A and VH-60 begin procurement, and advance procurement for the CV ASW Helicopter is also included in the FY 1986 request.

FY 1986 is the last year of procurement for the F-14A aircraft equipped with the TF-414A engine. Beginning with the last production aircraft in FY 1986, the F-14A will be powered by the GE-F-110, an operationally superior engine. A-6E production continues in FY 1986 with six aircraft. In support of the TACAMO mission, the Navy commences procurement of E-6A aircraft in FY 1986. The FY 1986 AV-8B procurement will continue the planned stand-up of eight squadrons. Specifically, the last FY 1986 production aircraft and the first FY 1987 production aircraft will form the initial squadron to stand-up at MCAS Yuma, Arizona, thereby providing both coasts with AV-8B operational capability.

FY 1986 marks the first production year of the CH/MH-53E proposed multiyear program. The MH-53E will be the mainstay of our airborne mine countermeasures forces in the future, replacing the RH-53D. Advance procurement funding for the proposed multiyear procurement of the P-3C is also included in the FY 1986 estimates. This multiyear procurement of 33 aircraft will ensure an efficient P-3C production rate through the 1980s. In addition, FY 1986 includes advance procurement funding for seven CV ASW helicopters to be procured in FY 1987. The SH-60 variant has been selected to provide carrier battle groups with the needed inner zone ASW protection. The Navy's training capabilities and support functions are enhanced with the reprocurement of 38 additional T-34C and the competitive procurement of up to 12 UC-12B/CX aircraft. Finally, nine executive transport helicopters for the USMC support mission are included in the budget request.

Important new start items in the FY 1986 aircraft modification program include the modification to integrate the HARM missile capability into the A-6; the procurement of a replacement inter-communication system (ICS) for the S-3; and a modification to equip F-4 and A-4 aircraft with the 30mm Gun Pod. Some of the major ongoing modifications in FY 1986 are the A-6 TRAM; structural and TF-30 engine improvements to the F-14; OV-10A to OV-10D conversion; H-46 Safety, Reliability and Maintainability update; H-3 SLEP; S-3 Weapon System Improvement Program; and the ALQ-126B provision and kit procurement. Funding for A-6 rewiring mods is included; however based on the most recent engineering data, acceleration of the program is being evaluated.

Beginning in April 1985, the Navy Stock Fund will procure aviation Depot Level Repairables (DLRs). The APN appropriation will continue to procure DLRs for the first half of FY 1985. Funds for the replenishment of meteorological and photographic aviation equipment, headquarters managed items, and the buy-out of follow-on site outfittings will remain in the APN appropriation. The APN aviation outfitting account will finance end-user spares in support of new aircraft being introduced into the fleet and to establish new aviation operating sites. We are continuing procurement of common ground equipment to initially replace obsolete support equipment and to provide sufficient yellow gear to deploy all carriers without having to cross deck equipment.

Real program growth in the Aircraft Procurement, Navy appropriation is 5.0%. Chart 16 provides summary data for the Aircraft Procurement appropriation:

CHART 16
DEPARTMENT OF THE NAVY
AIRCRAFT PROCUREMENT
NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984		FY 1985		FY 1986		FY 1987	
	QTY	\$	QTY	\$	QTY	\$	QTY	\$
A-6E (INTRUDER)	6	213.4	6	210.6	6	214.2	6	345.3
EA-6B (PROWLER)	8	452.8	6	382.2	12	479.3	12	494.5
AV-8B (HARRIER)	27	787.9	32	787.1	46	979.0	47	1,044.0
F-14A (TOMCAT)	24	929.6	24	956.0	18	801.8	18	867.5
F/A-18A (HORNET)	84	2,315.5	84	2,500.2	84	2,761.9	102	3,160.6
CH/MH-53E (SUPER STALLION)	11	179.1	10	234.0	14	293.4	14	230.7
AH-1T (SEA COBRA)	-	17.8	22	188.5	22	202.0	-	38.8
SH-60B (SEAHAWK)	21	437.0	24	432.2	18	370.5	18	343.4
CV ASW HELO	-	-	-	-	-	30.0	7	270.4
P-3C (ORION)	5	295.3	9	409.2	9	486.5	9	477.8
RP-3D (OCEANOGRAPHY)	-	-	-	-	-	-	-	12.0
E-2C (HAWKEYE)	6	309.4	6	335.8	6	359.7	6	368.1
SH-2F (SEASPRITE)	6	54.9	6	65.9	6	69.9	-	6.2
C-9B (SKYTRAIN II)	-	-	-	33.9	-	-	-	-
UC-12B/CX	-	-	12	26.9	12	26.9	12	28.6
C-2A COD	6	182.0	8	185.4	8	170.1	9	111.2
T-34C	-	4.7	-	-	38	49.4	50	54.2
T-44A	-	-	-	-	-	-	15	26.0
TH-57	21	29.7	36	24.4	-	-	-	-
ADVERSARY (F-16)	4	28.7	10	116.8	12	115.7	-	-
T-45TS	-	-	-	-	-	-	-	26.7
KC-130T	2	47.3	2	48.0	-	-	-	-
E-6A	-	97.7	-	-	2	355.6	4	375.3
FEWSG	1	20.1	-	-	-	-	-	-
UH-60A	-	-	2	12.0	-	-	-	-
YH-60	-	-	-	26.9	9	102.8	-	4.2
MODIFICATION OF A/C	-	1,384.2	-	1,711.8	-	1,865.7	-	2,040.2
A/C SPARES & PARTS	-	1,939.4	-	1,534.5	-	1,463.7	-	2,272.3
A/C SUPPORT EQUIP & FACILITIES	-	431.1	-	681.6	-	864.7	-	889.5
TOTAL: AIRCRAFT PROCUREMENT, NAVY	232	10,157.6	299	10,903.8	322	12,062.6	329	13,487.4

Chart 17 displays the FY 1986 through FY 1990 five year aircraft procurement plan.

Production of a reconfigured F-14, the 'D' model with upgraded radar and avionics suites, is slated to begin with the last production aircraft in FY 1988. The applicable advance procurement is included in FY 1987 estimates. A-6E Upgrade production will begin in FY 1988 with 12 aircraft containing a new radar,

avionics and engine. The decision to upgrade the A-6E was based on a Blue Ribbon Panel committee review of the alternatives for meeting the Navy's interim needs for an all-weather attack aircraft.

CHART 17
DEPARTMENT OF THE NAVY
AIRCRAFT PROCUREMENT
NAVY
FIVE YEAR PLAN

	FY 86	FY 87	FY 88	FY 89	FY 90	FY 86-90
A-6E (INTRUDER)	6	6	12	12	12	48
EA-6B (PROWLER)	12	12	9	9	9	51
AV-8B (HARRIER)	46	47	48	60	35	236
F-14A (TOMCAT)	18	18	12	24	24	96
F/A-18A (HORNET)	84	102	120	122	146	574
CH/MH-53E (SUPER STALLION)	14	14	14	14	11	67
V-22 (OSPREY)	-	-	-	18	42	60
AH-1T (SEA COBRA)	22	-	-	-	-	22
SH-60B (SEAHAWK)	18	18	18	18	18	90
CV ASW HELO	-	7	24	30	30	91
P-3C (ORION)	9	9	8	8	8	42
RP-3D (OCEANOGRAPHY)	-	-	1	1	1	3
SH-2F (SEASPRITE)	6	-	-	-	-	6
E-2C (HAWKEYE)	6	6	6	6	6	30
UC-128/CX	12	12	-	-	-	24
C-2A COD	8	9	-	-	-	17
T-34C	38	50	-	-	-	88
T-44A	-	15	-	-	-	15
ADVERSARY (F-16)	12	-	-	-	-	12
T-45TS	-	-	12	24	24	60
E-6A	2	4	6	2	-	14
VH-60	9	-	-	-	-	9
TOTAL NUMBER OF AIRCRAFT	322	329	290	348	366	1,655

Weapons Procurement, Navy

The FY 1986 budget request of \$5.6 billion for the Weapons Procurement, Navy (WPN) appropriation is an increase of \$1.3 billion over the current FY 1985 estimate of \$4.3 billion, and reflects our determination to improve sustainability by increasing the procurement of weapons. This emphasis is necessary to alleviate the current shortage of missiles in the fleet and to improve the Navy's warfighting posture.

As you can see in the chart below, Trident I funding continues at a reduced level, primarily for weapon system support. Trident II production begins in FY 1987; FY 1986 includes advance procurement funds for long lead material. We are significantly increasing the quantities of other missiles procured, especially in the air-to-surface missiles, Hellfire and Laser Maverick. We are beginning production of Sidewind and IIR Maverick in FY 1986. Tomahawk, Sparrow and Sidewinder procurements all increase. This request reflects the termination of MK-48 torpedo production in FY 1985, with production beginning in FY 1984 of the highly capable MK-48 ADCAP. An initiative to develop a second production source for the PHOENIX Missiles is being started in FY 1985. The initial FY 1985 funding for this effort will be addressed in a reprogramming request. Procurement of 39 Close-in Weapon System (CIWS) is also requested.

Chart 18 provides summary data for the Weapons Procurement, Navy appropriation. Real program growth for this account is 22.7%.

CHART 18
DEPARTMENT OF THE NAVY
WEAPONS PROCUREMENT
NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984		FY 1985		FY 1986		FY 1987	
	QTY	\$	QTY	\$	QTY	\$	QTY	\$
<u>MISSILES</u>		<u>2,496.7</u>		<u>3,001.9</u>		<u>4,000.5</u>		<u>5,709.7</u>
TRIDENT I	52	529.0	-	141.1	-	66.2	-	46.8
TRIDENT II	-	-	-	162.9	-	582.0	27	1863.2
TOMAHAWK	124	323.7	180	549.6	249	734.8	330	859.7
SPARROW	695	152.2	1671	290.0	1872	368.7	1910	368.0
SIDEWINDER	350	29.3	1000	68.5	1220	93.8	1168	89.0
PHOENIX	265	321.9	265	338.4	265	381.9	420	520.3
AIR-TO-SURFACE MISSILES	785	244.4	1851	406.4	4071	555.6	4985	628.2
SURFACE-TO-AIR MISSILES	1190	621.2	1414	761.4	1433	902.6	2200	1149.6
HARPOON	315	275.0	354	283.6	395	314.9	153	184.9
<u>TORPEDOES</u>		<u>526.7</u>		<u>570.1</u>		<u>570.6</u>		<u>747.3</u>
MK-48 TORPEDO	144	115.0	108	89.0	-	-	-	-
MK-48 ADCAP TORPEDO	-	77.7	30	105.6	123	417.4	280	622.6
MK-46 TORPEDO	1200	212.9	1565	229.7	500	129.1	500	106.8
MK-60 CAPTOR	300	101.7	300	122.0	-	-	-	-
ASW TARGETS	1207	19.4	1206	23.8	1206	24.1	2584	17.9
<u>SPARES</u>	-	<u>106.8</u>	-	<u>172.5</u>	-	<u>166.6</u>	-	<u>286.4</u>
<u>OTHER</u>		<u>612.9</u>		<u>609.1</u>		<u>890.2</u>		<u>1,230.7</u>
MK 15 CIWS (PHALANX)	40	125.9	49	169.4	39	150.1	32	132.9
OTHER	-	487.0	-	439.7	-	740.1	-	1097.8
<u>TOTAL: WEAPONS PROCUREMENT,</u>								
NAVY	-	3,743.1	-	4,353.6	-	5,627.9	-	7,974.1

Shipbuilding and Conversion, Navy

The Shipbuilding and Conversion, Navy (SCN) appropriation request for FY 1986 is \$11.4 billion. These funds provide for 23 new construction ships and five conversions. Also included are funds for landing and service craft, advance procurement funding for future ships, and funding for outfitting and post delivery costs. Prices for the SSBN, SSNs, CGs, LSDs and MSHs have been reduced to reflect recent favorable contract awards.

In FY 1986, we will procure one Trident submarine, four SSN-688 class attack submarines, and three CG-47 AEGIS cruisers. We are buying four Coastal Minehunters (MSH), the first follow-on buy of this ship. FY 1986 is the first year in which Landing Craft, Air Cushion (LCAC) vehicles reach a production level of twelve per year. The TAGOS program has been structured to include the FY 1985 ship deleted by Congress. With funds requested for two ships, we complete procurement of the LSD-41 class dock landing ship. The LHD program has been structured as a competitive three ship multiyear program with an FY 1986 ship, an FY 1988 ship and an FY 1989 ship. The multiyear concept is

conservatively estimated to accelerate delivery of these three ships by at least 33 ship months and save \$818 million. FY 1986 LHD funding is sufficient to cover the full end cost of one ship, plus contractor and government liabilities against the remaining two ships. We are investigating several acquisition strategies in the SSN-688 program. Once contractor data is available and an alternative is selected and approved by the Secretary of Defense, it will be submitted for Congressional approval.

In the area of conversions, we continue to concentrate on improving strategic sealift with an increase of \$171.1 million for roll on/roll off ships. Other conversions include the second Aviation Support ship (TAVB), three Auxiliary Crane ships (TACS), now funded in SCN, vice OAMN, and an Acoustic Research Vessel (AG).

In addition to the advance procurement funding requested for the TRIDENT, SSN-688, CG-47, DDG-51, LHD-1 and the Landing Craft Air Cushion (LCAC) programs, advance procurement is requested for conversions and reactivations in the amount of \$186.9 million for an FY 1987 Aircraft Carrier Service Life Extension program (CV-SLEP) and reactivation of the fourth and final battleship, USS WISCONSIN. In addition, \$26.5 million have been included for a Moored Training Ship pending a determination on the funding strategy and ship availability in FY 1987 or later years. This ship will be used for nuclear reactor training.

Real program growth for the Shipbuilding and Conversion, Navy appropriation is -.6%. Chart 19 provides summary financial and procurement quantity data for this account.

CHART 19
DEPARTMENT OF THE NAVY
SHIPBUILDING AND CONVERSION, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984		FY 1985		FY 1986		FY 1987	
	QTY	\$	QTY	\$	QTY	\$	QTY	\$
NEW CONSTRUCTION								
TRIDENT SUBMARINE (SSBN)	1	1,635.6	1	1,596.8	1	1,531.8	1	1,673.6
ATTACK SUBMARINE (SSN-688)	3	1,920.6	4	2,665.0	4	2,708.4	4	2,543.5
NEW DESIGN SSN (SSN-21)	-	-	-	-	-	-	-	456.1
AEGIS CRUISER (CG-47)	3	2,945.9	3	2,984.9	3	2766.2	3	2,885.2
DESTROYER (DDG-51)	-	79.0	1	1,050.0	-	164.3	2	2,239.5
MINE COUNTERMEASURES SHIP (MCM)	3	284.0	4	344.5	4	334.1	1	102.2
COASTAL MINEHUNTER (MSH-1)	1	65.0	-	-	4	184.5	4	195.7
AMPHIBIOUS LANDING SHIP DOCK (LSD-41)	1	363.2	2	489.5	2	414.4	-	-
AMPHIBIOUS LANDING SHIP DOCK (LSD-49)	-	-	-	-	-	-	-	23.6
AMPHIBIOUS ASSAULT SHIP (LHD-1)	1	1,365.7	-	39.2	1	1507.2	-	379.2
OCEAN SURVEILLANCE SHIP (TAGOS)	-	-	2	128.4	2	115.1	2	117.3
FLEET OILER (TAO)	2	325.6	3	522.6	2	328.5	2	356.4
FRIGATE (FFG-7)	1	336.3	-	-	-	-	-	-
LANDING CRAFT AIR CUSHION (LCAC)	(6)	150.6	(9)	230.1	(12)	307.0	(12)	310.3
SURVEY SHIP (TAGS)	-	17.0	2	225.0	-	-	-	-
FAST COMBAT SUPPORT SHIP (AOE)	-	-	-	-	-	-	1	756.6
CONVERSION/ACQUISITION								
ACOUSTIC RESEARCH VESSEL (AG)	-	-	-	-	1	68.9	-	-
AMPHIBIOUS SLEP	-	-	-	15.0	-	-	-	80.5
BATTLESHIP REACTIVATION	1	467.3	-	-	-	53.5	1	422.4
HOSPITAL SHIP TAH(C)	1	223.1	-	-	-	-	-	-
CV-SLEP	-	95.3	1	714.5	-	133.4	1	491.8
MOORED TRAINING SHIP (MTSD)	-	-	-	30.0	-	26.5	-	-
AVIATION SUPPORT SHIP (TAVB)(C)	-	-	1	31.8	1	26.9	-	-
STRATEGIC SEALIFT	-	83.0	-	31.0	-	203.4	-	29.1
COMBAT STORES SHIPS (TAFS)	1	10.5	-	-	-	-	-	-
TAKR(C)	4	221.0	-	-	-	-	-	-
CRANE SHIP (TACS)(C)	-	-	1	36.0	3	82.5	2	66.6
OTHER COSTS	-	441.7	-	450.2	-	455.0	-	604.8
COST GROWTH	-	441.0	-	-	-	-	-	-
TAK (FBM) (C)	-	.9	-	-	-	-	-	-
TOTAL: SHIPBUILDING AND CONVERSION, NAVY	23	11,472.3	25	11,584.5	28	11,411.6	24	13,734.4

Chart 20 displays the five-year shipbuilding and conversion plan. Several ship classes complete procurement between FY 1987 and FY 1990: the MCM program completes in FY 1987, the CG-47 program completes in FY 1989, and the MSH program completes in FY 1989. The LSD-49 amphibious landing ship dock begins procurement in FY 1988. Follow-on procurement of the DDG-51 begins in FY 1987, continuing through the FYDP, and the first SSN-21 is planned for FY 1989.

CHART 20
DEPARTMENT OF THE NAVY
SHIPBUILDING AND CONVERSION, NAVY
FIVE YEAR PLAN

	FY 86	FY 87	FY 88	FY 89	FY 90
<u>NEW CONSTRUCTION</u>					
TRIDENT SUBMARINE (SSBN)	1	1	1	1	1
ATTACK SUBMARINE (SSN-688)	4	4	4	2	4
DESTROYER (DDG-51)	-	2	5	5	5
AEGIS CRUISER (CG-47)	3	3	3	2	-
NEW DESIGN SSN	-	-	-	1	-
MINE COUNTERMEASURES SHIP (MCM)	4	1	-	-	-
COASTAL MINEHUNTER (MSH-1)	4	4	4	4	-
AMPHIBIOUS LANDING SHIP DOCK (LSD-41)	2	-	-	-	-
AMPHIBIOUS ASSAULT SHIP (LHD-1)	1	-	1	1	1
AMPHIBIOUS LANDING SHIP DOCK (LSD-49)	-	-	2	2	2
FAST COMBAT SUPPORT SHIP (AOE)	-	1	1	1	1
OCEAN SURVEILLANCE SHIP (TAGOS)	2	2	-	-	-
FLEET OILER (TAO)	2	2	2	2	2
REPAIR SHIP (AR)	-	-	-	-	1
AMMUNITION SHIP (AE)	-	-	1	1	1
AUXILIARY FLOATING DRYDOCK (AFDM)	-	-	1	-	1
LANDING CRAFT AIR CUSHION (LCAC)	(12)	(12)	(12)	(12)	(12)
<u>CONVERSION/ACQUISITION</u>					
AMPHIBIOUS SLEP	-	-	1	3	3
BATTLESHIP REACTIVATION	-	1	-	-	-
CV-SLEP	-	1	-	-	1
ACOUSTIC RESEARCH VESSEL (AG)	1	-	-	-	-
JUMBO OILER (C)	-	-	1	2	2
CRANE SHIP (TACS) (C)	3	2	2	-	-
AVIATION SUPPORT SHIP (TAVB) (C)	1	-	-	-	-
TOTAL: NUMBER OF SHIPS	28	24	29	27	25

Other Procurement, Navy

The FY 1986 budget request of \$6.6 billion for the Other Procurement Navy (OPN) appropriation is \$1.3 billion higher than the current FY 1985 appropriation of \$5.3 billion. The FY 1986 request reflects our continuing efforts to modernize the Fleet, to improve readiness and sustainability, and to update shore facilities. Much of the \$6.6 billion in the appropriation request buys equipment for the FMP program. The Ships Support Equipment budget request of \$923.0 million includes \$391.1 million for reactor plant equipment. The budget request of \$2.2 billion for Communications and Electronics Equipment includes increases in various ASW, reconnaissance and electronic warfare equipments. We are ramping up production of the AN/SQR-19 TACTAS, improving the AN/SLQ-32, and procuring various other radars. Included in the budget request are \$273.1 million for sonobuoys, \$620.6 million for air launched ordnance, and \$195.7 million for other expendable ordnance, major contributors to our sustainability posture.

In our continuing effort to improve the execution of our spare parts program we have consolidated funding into a new budget activity. A total of \$279.8 million is included in FY 1986 for this effort.

Real program growth for the Other Procurement, Navy appropriation is 18.8%. Chart 21 provides summary financial data for this account.

CHART 21
DEPARTMENT OF THE NAVY
OTHER PROCUREMENT, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1987
SHIPS SUPPORT EQUIPMENT	665.5	761.8	923.0	1,164.1
REACTOR PLANT EQUIPMENT	353.7	386.2	391.1	546.9
OTHER SHIPS SUPPORT EQUIPMENT	296.0	331.9	475.4	506.9
STRATEGIC PLATFORM SUPPORT EQUIPMENT	15.8	43.7	56.5	110.3
COMMUNICATIONS AND ELECTRONICS EQUIPMENT	1,526.6	1,710.2	2,154.0	2,552.2
SHIP RADARS	132.6	170.3	163.6	215.6
SHIP SONARS	229.1	244.9	215.3	327.4
ASW ELECTRONICS EQUIPMENT	286.0	285.5	397.3	531.3
RECONNAISSANCE AND ELECTRONIC WARFARE	93.7	173.2	262.9	374.7
OTHER ELECTRONIC EQUIPMENT	229.9	164.0	256.8	249.8
COMMUNICATIONS EQUIPMENT	434.1	485.6	664.3	675.7
SPARES AND REPAIR PARTS	103.8	129.3	-	-
STRATEGIC PLATFORM SUPPORT EQUIPMENT	17.4	57.4	193.8	177.7
AVIATION SUPPORT EQUIPMENT	662.1	972.6	1,184.0	1,138.3
SONOBUOYS	183.4	332.7	273.1	230.9
AIR LAUNCHED ORDNANCE	309.9	400.6	620.6	625.1
AIRCRAFT SUPPORT EQUIPMENT	151.9	215.3	290.3	282.3
SPARES AND REPAIR PARTS	16.9	24.0	-	-
ORDNANCE SUPPORT EQUIPMENT	920.1	1,103.4	1,396.5	1,358.3
SHIP GUN AMMUNITION	167.3	196.0	254.8	352.4
SHIP GUN SYSTEM EQUIPMENT	34.2	42.4	63.6	85.6
SHIP MISSILE SYSTEM EQUIPMENT	329.7	428.6	574.4	443.2
OTHER ORDNANCE SUPPORT EQUIPMENT	118.4	92.0	139.1	144.6
OTHER EXPENDABLE ORDNANCE	136.3	166.9	195.7	237.2
SPARES AND REPAIR PARTS	73.5	98.1	-	-
STRATEGIC PLATFORM SUPPORT EQUIPMENT	60.7	79.5	168.9	95.3
CIVIL ENGINEERING SUPPORT EQUIPMENT	192.2	232.5	221.6	366.5
FLEET HOSPITALS	58.2	69.2	27.7	109.3
AMPHIBIOUS EQUIPMENT	42.9	59.5	73.0	99.1
OTHER CIVIL ENGINEERING EQUIPMENT	91.1	103.8	120.9	158.1
SUPPLY SUPPORT EQUIPMENT	79.4	89.7	62.5	144.7
PERSONNEL AND COMMAND SUPPORT EQUIPMENT	311.7	471.4	379.8	385.0
TRAINING DEVICES	86.8	105.5	107.3	135.9
COMMAND SUPPORT EQUIPMENT	105.3	125.5	75.3	85.0
COMPUTER ACQUISITION PROGRAM	111.0	227.4	176.6	121.6
PRODUCTIVITY PROGRAMS	8.6	13.0	3.4	2.1
PHYSICAL SECURITY	-	-	17.2	40.4
SPARES AND REPAIR PARTS	(198.2)	(260.5)	279.8	265.5
TOTAL: OTHER PROCUREMENT, NAVY	4,357.6	5,341.6	6,601.2	7,374.5

Procurement, Marine Corps

The Procurement, Marine Corps budget request for FY 1986 is \$1.7 billion, a decrease of \$109.9 million from the current budget. The completion of procurement of the LVT-7 SLEP and of the LAV allows a \$340 million decrease between FY 1985 and FY 1986. The FY 1986 budget is formulated to improve the overall capability of the Fleet Marine Forces. Readiness and sustainability have been stressed over modernization and force structure growth.

The FY 1986 budget sustains the capability improvements of the past years. Infantry firepower is enhanced by the continuation of programs such as the Squad Automatic Weapon (SAW), the Shoulder-fired Mobile Assault Weapon (SMAW), the TOW II missile and the M-16A2 rifle. Artillery units will be strengthened through continued conversion to the M-198 155MM Howitzer and the acquisition of the Battery Computer System (BCS). Anti-air capabilities will be enhanced by the continued procurement of Hawk and Stinger missiles. Combat Service Support enhancements continue with programs which include cranes, medium girder bridges.

water purification units, tractors, forklifts, 5-ton trucks, logistics vehicle systems, and the High Mobility Multipurpose Wheeled Vehicle (HMMWV).

Existing equipment capability is improved by a number of modification programs. They include the Production Improvement Program (PIP) for the Hawk missile which provides capability enhancement, service life extension and significant reliability and maintainability improvements.

Sustainability improvements are budgeted in FY 1986 which support overall readiness and the achievement of adequate levels of combat sustainability. Approximately 85% of the FY 1986 budget request for ammunition is to be applied to Pre-positioned War Reserve (PWR), and 15% for peacetime consumption.

Marine Corps "Total Force Goals" mandate structuring and sustaining the Reserves in such a fashion that they remain a viable fighting force. To achieve these goals, the FY 1986 budget includes an initial purchase of the M-198 155mm Howitzer, and additional ammunition and missiles of all types.

Chart 22 provides summary financial data for the Procurement, Marine Corps appropriation. Real program growth for this account is -10.6%, primarily resulting from the completion of procurement of the amphibious assault vehicle and its service life extension program in FY 1985.

CHART 22
DEPARTMENT OF THE NAVY
PROCUREMENT, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1984		FY 1985		FY 1986		FY 1987	
	QTY	\$	QTY	\$	QTY	\$	QTY	\$
AMMUNITION		416.5		451.8		488.9		627.3
MORTAR AMMUNITION (ALL TYPES)	-	28.7	-	13.9	-	33.3	-	80.9
155MM AMMUNITION	-	158.5	-	214.3	-	214.6	-	271.4
COPPERHEAD	-	-	-	12.5	-	52.1	-	90.1
8 INCH AMMUNITION	-	51.9	-	5.8	-	11.2	-	6.4
ALL OTHER	-	177.4	-	205.3	-	177.7	-	178.5
WEAPONS AND TRACKED COMBAT VEHICLES		445.1		411.9		102.1		114.4
LVT 7A1 PROCUREMENT	153	88.9	4	3.5	-	-	-	-
LVT7 SLEP (INCLUDES ADV PROC)	263	127.7	240	96.9	-	-	-	-
LIGHT ARMORED VEHICLE (LAV)	236	170.6	292	242.8	-	-	-	-
ARTILLERY COMPUTER SYSTEM	-	-	-	-	166	32.3	-	-
ALL OTHER	-	57.9	-	68.7	-	69.8	-	114.4
GUIDED MISSILES		166.5		259.0		283.7		372.9
HAWK	400	97.0	500	124.8	550	140.0	550	151.7
STINGER	691	40.0	700	58.8	800	59.4	2080	146.4
TOW	2200	28.2	3555	50.0	4782	44.5	4740	47.5
OTHER	-	1.3	-	25.4	-	39.8	-	27.3
COMMUNICATIONS/ELECTRONICS		273.4		276.7		316.6		553.4
ULCS	-	-	-	19.2	-	35.7	-	78.1
POSITION LOCATION REPORTING SYSTEM (PLRS)	2	52.3	1	27.3	2	59.1	2	68.9
MOD UNIV LASER EQUIP (MULE)	134	43.3	115	38.0	-	-	-	-
TAOM	-	-	-	-	3	86.3	12	81.9
ALL OTHER	-	177.8	-	192.2	-	135.5	-	324.5
SUPPORT VEHICLES		283.6		264.1		293.8		184.9
TRUCKS, 5-TON, ALL TYPES	1014	86.6	613	57.7	396	39.7	329	34.3
LOGISTICS VEHICLE SYS (LVS)	-	29.0	-	66.7	-	71.4	-	83.4
HMMWV	3838	87.2	3123	75.0	4832	121.7	700	18.3
ALL OTHER	-	80.8	-	64.7	-	61.0	-	48.9
ENGINEER AND OTHER SUPPORT EQUIPMENT		156.2		173.3		185.5		244.6
SPARES & REPAIR PARTS		-		-		56.1		85.1
TOTAL: PROCUREMENT, MARINE CORPS		1,741.3		1,836.7		1,726.8		2,182.6

Research, Development, Test and Evaluation, Navy

The FY 1986 budget estimate for the Research, Development, Test and Evaluation, Navy (RDT&E,N) appropriation is \$11.3 billion. This is \$2.0 billion higher than the FY 1985 budget. Funding for strategic programs remains essentially the same in FY 1986 as in FY 1985, while funding for the tactical programs reflects a significant increase.

The FY 1986 budget provides funding for the Technology Base of \$853.2 million in Research (\$371.7M) and Exploratory Development (\$481.5M) which represents 4.5% real growth over FY 1985. Trident II full scale development continues in support of the March 1987 full-scale production commitment. Over the last few years, we have focused R&D funding on strategic programs. With the Trident II entering into production in FY 1987, we are now able to emphasize tactical R&D. We have increased funding for tactical programs by \$1.3 billion. These tactical programs include the V-22, A-6 Upgrade, F-14D, T45-TS, SUBACS, SSN-21 and PDG-51, all essential to the Navy's war fighting capability.

In an effort to improve cost control over a range of development programs we have attempted to identify relatively low risk programs and negotiate fixed price rather than cost plus contracts. Most notable are the F-14D, A-6E Upgrade, and T-45 contracts. These fixed price contracts represent a considerable savings over initial program estimates. However, since they are funded incrementally over several years, changes in annual funding levels would require us to re-open negotiations and invalidate our current cost advantage.

Chart 23 provides summary financial data for the Research, Development, Test and Evaluation, Navy appropriation. Real program growth is 16.5% for this account.

CHART 23
DEPARTMENT OF THE NAVY
RESEARCH, DEVELOPMENT, TEST
AND EVALUATION, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1987
TECHNOLOGY BASE	765.5	782.9	853.2	1,005.0
ADVANCED TECHNOLOGY DEVELOPMENT	226.5	169.7	239.4	328.5
STRATEGIC PROGRAMS	1,762.7	2,294.9	2,482.0	2,112.5
TACTICAL PROGRAMS	3,916.9	4,875.2	6,161.0	6,678.4
INTELLIGENCE AND COMMUNICATIONS	345.4	423.1	704.0	757.0
DEFENSE WIDE MISSION SUPPORT	612.4	728.3	824.7	926.9
TOTAL RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY	7,629.4	9,274.1	11,264.3	11,808.4

Military Construction, Navy and Navy Reserve

The FY 1986 budget request totals \$2.1 billion for military construction and \$51.8 million for support of the Reserves. The FY 1986 request is \$541.6 million more than the current budget for FY 1985. Each major construction project in the FY 1986 budget has been adjusted in price to reflect current contract pricing. A detailed comparative analysis of bid experience on a square foot or unit cost basis was performed and the price of each project has been adjusted based on this refined analysis.

The growth in FY 1986 over FY 1985 is primarily attributable to construction at Kings Bay, GA needed to achieve the Trident IOC of FY 1989 (\$204 million); homeporting initiatives (Staten Island, Everett, Alameda, Oakland, Guam) (\$46 million); training initiatives, including support of the Strike Warfare Center (\$43 million); and funding in FY 1986 of the Puget Sound power plant and the Kings Bay dredging project that were deferred by FY 1985 Congressional adjustments (\$79 million).

Real program growth for Military Construction is 29.1%. Chart 24 provides summary financial data for the Military Construction, Navy, and Military Construction, Navy Reserve appropriations.

CHART 24
DEPARTMENT OF THE NAVY
MILITARY CONSTRUCTION
(IN MILLIONS OF DOLLARS)

SIGNIFICANT PROGRAMS	FY 1984	FY 1985	FY 1986
MISSION/MAJOR SYSTEM SUPPORT	301.7	333.5	618.6
WATERFRONT SUPPORT	101.1	140.6	131.1
TRAINING FACILITIES	68.5	99.3	140.5
INDUSTRIAL BASE (SHIPYARDS, UTILITIES)	211.6	135.0	183.6
QUALITY OF LIFE	201.9	290.2	374.8
REPLACEMENT/MODERNIZATION	219.1	320.3	350.5
RD&E FACILITIES	49.4	42.0	71.9
COMPLIANCE (NAVOSH, ENERGY)	33.7	63.1	40.4
DEFENSE INTELLIGENCE	10.1	25.6	10.0
DESIGN, UMC, NATO, ACCESS ROADS	145.1	165.0	163.8
GENERAL REDUCTION	-110.7	-80.0	-
TOTAL: MILITARY CONSTRUCTION, NAVY	1,231.5	1,534.6	2,085.2
TOTAL: MILITARY CONSTRUCTION, NAVY RESERVE	30.6	60.8	51.8

Family Housing, Navy and Marine Corps

The FY 1986 budget request for the Family Housing, Navy and Marine Corps appropriation is \$722.5 million. This is \$63.2 million higher than the FY 1985 request for \$659.3 million.

The FY 1986 request consists of \$113.1 million for new construction of a total of 1,227 units. As recommended by the Grace Commission, we have only budgeted for construction in those areas where the local community cannot support our needs. The need for additional family housing in many of these areas is becoming critical because of the hardships encountered by enlisted families in obtaining housing. Because of the gravity of the housing situation, the budget includes construction of new units in three metropolitan areas: San Diego, CA, Earle, NJ, and El Toro, CA. The balance of the funding requested for the construction account includes \$34.0 million for improvements and \$6.9 million for planning.

The FY 1986 request for leasing includes \$3.5 million to begin procurement of two 300 unit domestic leasing test projects authorized by Section 801 of the FY 1984 Military Construction Authorization Act (P.L. 98-115). These pilot projects are in response to Congressional intent that the Military Departments test alternatives to acquiring housing through the use of Military Construction. The FY 1986 request for maintenance will provide for the performance of annual recurring maintenance and major maintenance and repair. Unfortunately, we have not been able to eliminate the backlog of deferred maintenance.

Real program growth for Family Housing is 5.2%. Chart 25 provides summary financial and housing program data for the Family Housing, Navy and Marine Corps appropriation.

CHART 25
DEPARTMENT OF THE NAVY
FAMILY HOUSING, NAVY AND MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
NEW CONSTRUCTION				
CONSTRUCTION	47.8	99.6	113.1	+13.5
IMPROVEMENTS	13.2	9.0	34.0	+25.0
PLANNING & DESIGN	7.0	8.4	6.9	-1.5
TOTAL NEW CONSTRUCTION	68.0	117.0	154.0	+37.0
OPERATIONS & MAINTENANCE				
OPERATIONS	242.2	241.1	267.5	+26.4
LEASING	13.5	19.0	22.5	+3.5
MAINTENANCE	272.3	280.0	277.5	-2.5
DEBT PAYMENT	3.2	2.2	1.1	-1.1
TOTAL O&M	531.2	542.3	568.5	+26.2
TOTAL FAMILY HOUSING, NAVY AND MARINE CORPS	599.2	659.3	722.5	+63.2

SUMMARY DATA

	FY 1984	FY 1985	FY 1986	FY 1985 - FY 1986
NEW CONSTRUCTION PROJECTS	3	5	8	+3
NEW CONSTRUCTION UNITS	730	1,318	1,227	-91
AVERAGE NUMBER OF UNITS	89,327	89,787	90,749	+962

CIVILIAN MANPOWER

The Department of the Navy budget request includes the following civilian strength estimates:

	FY 1984	FY 1985	FY 1986	FY 1985-86 Changes
End-Strength	342,082	338,991	340,799	+1,808

The FY 1984 figure is the actual on-board as of 30 September 1984.

The FY 1985 end year level reflects the Department of the Navy's best estimate of the civilian resources required to execute funded program and is consistent with Congressional direction that during fiscal year 1985, the civilian personnel of the Department of Defense not be managed on the basis of any end-strength constraint or limitation.

The FY 1986 end year estimate represents the manpower level which balances the civilian work force with workload. This is consistent with Congressional direction that budget estimates be formulated on the basis of continuing the civilian ceiling exemption in FY 1986. The FY 1986 level of 340,799 represents an increase of 1,808 above the FY 1985 level, but still below the FY 1984 level. This net increase reflects workload related adjustments at industrial fund activities and increases at a number of non-industrial fund activities with a direct bearing on readiness, improved integrity in the procurement process, and physical security.

The following chart summarizes the FY 1986 adjustment:

Department of the Navy
Civilian End-Strength

<u>FY 1985 ESTIMATE</u>	<u>338,991</u>
Physical Security	+551
Civilianize Military Billets	+456
Procurement/Facilities Oversight	+637
Marine Corps Operations and Support	+403
Shipyard Staffing	-1,721
Air Rework Workload	+605
All Other	+877
<u>FY 1986 ESTIMATE</u>	<u>340,799</u>
(Net FY 1985 to FY 1986 Change)	(+1,808)

Civilian staffing increases in FY 1986 will result in increased physical security for bases and stations. We will also be able to place civilians in numerous positions currently filled by military personnel, thus freeing the military for more critical operational billets with a direct impact on readiness. Additional civilian positions will be dedicated to management and oversight of acquisition contracts, both for major systems and spares, improving the integrity of our procurement operations. Additional personnel will also be available to oversee our growing military construction/facilities acquisition programs. Other adjustments have been incorporated in industrial activities to ensure that work force and workload are in balance. Manpower levels for aircraft maintenance have been increased in consonance with growing workload, while manpower levels for ship repair/overhaul and public works have decreased to match workload.

During FY 1985 the Department is managing civilian employment under the terms of Section 501 of the FY 1985 DOD Authorization Act and Section 8064 of the FY 1985 DOD Appropriation Act, which waive civilian employment end-strength controls for one year. These provisions allow more flexibility in setting our civilian employment levels, and allow the Department to execute its program in the most efficient way. The Department demonstrated the benefits of the waiver of civilian ceilings for industrial fund activities in FY 1983 and FY 1984, and we anticipate similar demonstrable benefits for the general waiver contained in the two Acts.

We will continue to aggressively pursue manpower economy and efficiency initiatives that will allow us to make better use of limited resources. Most of our efforts in this area are concentrated in the Commercial Activities (CA) and Efficiency Review (ER) programs. During FY 1984, the Department conducted 142 CA cost comparison studies on 4,000 civilian positions, of which 1,800 were determined to be more cost effective when converted to contractor performance. The actual savings achieved through FY 1984 have been incorporated in our budget estimates. These actions will provide estimated annual savings of \$13.0 million. The Department expects to continue to study about 4,500 positions per year over the next few years under CA. In accordance with Congressional direction, no adjustments have been made for anticipated contracting out decisions. The ER program has been implemented to apply CA methods to those functions which are not suitable for contractor performance. The FY 1986 manpower levels incorporate anticipated savings of 500 positions resulting from efficiency reviews, with cumulative savings of 1,600.

In summary, the Department of the Navy civilian personnel request has been structured to reflect modest growth in employment, while providing for selected readiness and other essential support increases, and demonstrates a strong commitment to manpower economies and efficiencies.

As you can see, the majority of the civilian employees of the Department of the Navy are directly related to readiness. Over half of the civilians work in industrial fund activities, which are primarily engaged in depot level maintenance and repair of ships, planes, and associated equipment. Many of the civilians employed at operation and maintenance activities such as supply centers, ship repair facilities, air station and Marine Corps bases are essential to readiness. The balance of the civilians provide essential support in functions such as training, medical facilities, engineering, development, and acquisition, which have a definite, although longer range, impact on readiness.

READINESS

This section contains selected readiness data on aircraft and ship operations, ship maintenance, and aircraft rework.

Fleet Operational Tempo

The aircraft flying hour program data shows the Primary Mission Readiness (PMR) rate at 87 percent for FY 1986, which is an increase of 1 percent over the FY 1985 level. PMR represents the flying hours needed to keep the crews qualified to perform their primary mission in assigned aircraft. The increase in flying hours also provides for 6 new squadrons (2 F/A-18, 3 SH-60B, 1 EA-6B). The FY 1986 program supports thirteen deployable air wings, while at the same time providing achievable PMR levels for Marine Corps squadrons. In addition, the FY 1986 program includes the full year implementation of stock funding of aviation depot level repairables. The primary objective of this initiative is to increase readiness through improved supply support.

For ship operations, non-deployed and deployed coverage will continue as in FY 1985, with carrier battle groups deploying in world-wide operating areas. The average operating days generally represent the time a ship spends at sea for work-up, training, or deployed in response to national commitments.

Fleet operational tempo is summarized below.

CHART 26
DEPARTMENT OF THE NAVY
FLEET OPERATIONAL TEMPO

	FY 1984	FY 1985	FY 1986
<u>AIRCRAFT FLYING HOUR PROGRAM</u>			
<u>ACTIVE FORCES</u>			
% OF PMR *	85	86	87
(INCLUDES 2% SIMULATORS)			
% OF FRS **	100	100	100
% OF FLEET SUPPORT	85	75	82
<u>RESERVE FORCES</u>			
(HR. PER PILOT PER YR)	134.5	136.4	142.8
<u>SHIPS - STEAMING DAYS PER QTR</u>			
<u>ACTIVE FORCES</u>			
DEPLOYED	60.0 1/	50.5	50.5
NON-DEPLOYED	28.2	29.0	29.0
<u>RESERVES</u>			
	14.7	14.7	14.7

NOTE 1. FY 1984 actual accomplishment which includes Lebanon operations.

*PMR - PRIMARY MISSION READINESS

**FRS - FLEET READINESS SQUADRONS

Ship Maintenance and Aircraft Rework

Between FY 1985 and FY 1986, the ship maintenance program reflects a decrease of 20 overhauls, an increase of 28 in the number of selected restricted and phased maintenance availabilities, and extensive survivability, safety, and weapons modernization. One ship is overdue for overhaul in FY 1986.

FY 1985 marks the first full year implementation of the Aircraft Service Period Adjustment (ASPA) program. The number of aircraft overdue for maintenance changes from 74 in FY 1984 to zero in FY 1985 and 17 in FY 1986. Engine availability changes from 96.0 percent in FY 1984 to 100 percent and 98.9 percent in FY 1985 and FY 1986 respectively. The readiness indicator used for aircraft material readiness is the Mission Capable (MC) rate, the percentage of aircraft able to perform at least one assigned mission. This budget reflects an increase in the mission capable rate from 70 percent in FY 1984 and FY 1985 to 72 percent in FY 1986. The decrease in aircraft component repair funding reflects the full year implementation of the transfer of Aviation Depot Level Repairables to the Navy Stock Fund. Increases for modification installations will restrain backlog growth and support increasing commercial modification installations for F-14, F-18, A-6, H-6U, H-1, P-3, and E-2 aircraft.

Summary resources and program data associated with these maintenance programs are displayed in Chart 27.

CHART 27
DEPARTMENT OF THE NAVY
SHIP MAINTENANCE AND AIRCRAFT REWORK

<u>SHIP MAINTENANCE AND MODERNIZATION</u>			
<u>ACTIVE FORCES</u>			
(IN MILLIONS OF DOLLARS)			
	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
SHIP OVERHAULS	2,142.7	2,775.6	2,273.2
RA/TA	1,002.6	1,246.5	1,332.3
MODERNIZATION	1,053.8	1,409.1	1,544.9
IMA	312.6	360.5	388.7
TECH SUPPORT	107.6	118.8	138.3
OUTFITTING	293.7	335.7	352.8
BERTHING AND MESSING	53.5	43.0	44.7
INACTIVATIONS (SALT)	44.7	0	-
TOTAL: SHIP MAINTENANCE & MODERNIZATION	5,011.4	6,289.2	6,074.9
NUMBER OF OVERHAULS	53	55	35
DEFERRED OVERHAULS	3	0	1

<u>AIRCRAFT REWORK</u>			
<u>ACTIVE FORCES</u>			
(IN MILLIONS OF DOLLARS)			
	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
AIRFRAMES	363.7	475.8	464.6
ENGINES	227.8	334.8	328.4
COMPONENTS	1,082.3	689.0	70.5
MODS INSTALLATIONS	231.7	312.4	351.8
SUPPORT SERVICES	44.7	54.4	32.1
TOTAL: AIRCRAFT REWORK	1,950.2	1,866.4	1,247.4
AIRCRAFT OVERDUE FOR MAINTENANCE (UNITS)	74	0	17
ENGINE AVAILABILITY (%)	96.0	100.0	98.9
MISSION CAPABLE RATE (%)	70	70	72

CONCLUSION

I appreciate the opportunity to describe the Department of the Navy's FY 1986 budget request. We are following up the force expansion of the FY 1981 through FY 1985 budgets with enhanced readiness and sustainability.

Daniel L. Cooper, RADM, USN

Daniel L. COOPER was born in East Liverpool, Ohio, the son of William B. and Rowena S. Cooper. He attended one year at Washington and Jefferson College in Washington, Pennsylvania prior to entering the U.S. Naval Academy, from which he graduated on June 7, 1957.

He initially served with the amphibious force on board USS CHILTON (APA 38). In June 1959, at the completion of Submarine School, he reported to USS TRIGGER (SS 564) in New London, Connecticut. TRIGGER's homeport shifted shortly thereafter to Charleston, South Carolina.

In 1963, Rear Admiral COOPER received an MPA degree from Harvard University through the Navy's Postgraduate Program in International Relations. During 1963 and 1964, he attended Nuclear Power School at Bainbridge, Maryland and then the SIC prototype in Windsor, Connecticut.

From December 1964 to March 1966, he served aboard USS HADDO (SSN 604), then he reported to USS SIMON BOLIVAR (SSBN 641) as Executive Officer on the blue crew.

In June 1968, he was ordered to duty in Washington, D.C. as Aide to the Vice Chief of Naval Operations. Following brief tours on USS HENRY L. STIMSON (SSBN 655) and USS QUEENFISH (SSN 651), Rear Admiral COOPER assumed command of the USS PUFFER (SSN 652) in January 1972.

He was relieved as Commanding Officer, USS PUFFER and reported in May 1974 to be Executive Assistant to the Assistant Secretary of the Navy (Financial Management). In May 1976, Rear Admiral COOPER was ordered as Commander, Submarine Squadron TEN in New London, Connecticut. In July 1979, he reported to Washington as Deputy to the Director, Strategic Submarine Division and TRIDENT Program Coordinator on the staff of the Chief of Naval Operations. It was while in this position that he was selected for promotion to flag rank. In August 1980, he became Deputy Commander/Comptroller, Naval Sea Systems Command. In April 1983, he was appointed by the President as the Director of Budget and Reports, Office of the Navy Comptroller, and Director, Fiscal Management Division, Office of the Chief of Naval Operations.

Rear Admiral COOPER is married to the former Betty Jane Ogilvie of East Liverpool, Ohio. They have two daughters, Amy and Cynthia.

GENERAL QUESTIONING

ACTIONS OF BUDGET COMMITTEE

Senator STEVENS. Thank you very much.

Admiral Cooper, do you have a comment this morning?

Admiral COOPER. No, sir.

Senator STEVENS. Mr. Comstock.

Mr. COMSTOCK. No, Mr. Chairman.

Senator STEVENS. We are delighted to see you here.

I think we have some tough decisions to make this year if the Budget Committee reflects the attitude of the Senate. If those figures hold, and it is a zero real growth for 1986, and limited to 3 percent for 1987 and 1988, this committee has got to make some tough decisions.

Let me say, in the first place, I don't believe the 3 percent for 1987 and 1988. When we were in the 1984 year, we had a commitment for 1985 and 1986; it wasn't kept. In the Rose Garden, we had another commitment for 1986 and 1987, which certainly has not been kept. So just forget about the 3 percent. It is not a commitment. It won't be in the law, and it won't be really effective as far as making any plans, as far as we are concerned. We have been bitten twice here in the last 2 years. If the dog bites you once, it is his fault. If he bites you twice, it is your fault. I think that we have to be real careful.

I think you have to tell us, you and the chief, what is more important to the Navy, the modernization program or the 600-ship goal?

Secretary LEHMAN. Mr. Chairman, it was trendy in the 1970's for people to write about how the services would never give up ships and flashy airplanes, that they would always slight readiness and sustainability. In reality, any distortion of the program, holding anything absolute to the sacrifice of other elements, leads you to the same problem—inability to fight.

So it has got to be a balance. What sets the size of the 600-ship Navy is the nature of the commitments that are laid upon us. What do we have to do in the event of any kind of conflict, to defend Europe, or to defend the oil producing areas or access to our treaty allies that we are pledged by law to do in the Pacific and in the NATO region. No such strategy can succeed unless we are able to move tonnage across the surface of the sea, unless we are to prevent the seas from being used as mediums of attack against our own industrial base. That is a sine qua non for the carrying out of any defense of any of our areas.

We have very large areas to defend, not all over the world, but very clearly definable across the North Atlantic, in the Caribbean, to Alaska, to the Pacific States and territories of the United States, and to our allies in the Western Pacific. When you just lay those minimum areas out, you can accept the requirement that we must move tonnage for the Army, for our own fuel requirements, for our allies, and just to keep our economy going, as you know, some 30 percent of our economy depends on seaborne trade.

Even if you fund, and I urge you to do so, all of the airlift initiatives in the President's request because they are essential, they

will still only carry 5 percent of those requirements. The other 95 percent must go by sea. The size of our fleet is as much a part of our ability to do a job as the number of bullets in the magazines, or the spare parts in the lockers, or the men in the ships.

I would say, that if we are going to have to cut back on the resources available in the ways that are being pointed to by the Budget Committee, there must be a facing up, by Congress, to cutting the commitments. We cannot continue to pretend to the world that we will meet commitments in the Middle East, to maintain the flow of oil to our allies out of the Persian Gulf, that we will keep Japan's supply lines open as we are bound by treaty to do, and even, Mr. Chairman, that we will be able to maintain our own oil supplies which have shifted now almost entirely to the Americas. As you know, we get nearly three times as much oil from Alaska by sea as we get from the entire Persian Gulf.

Congress must face up to that. We have to do a triage of commitments in the law. We at this table have to raise our right hand to uphold the law of the land just as you do. Article V of NATO is as much a part of the law as any domestic piece of legislation. We have to swear to protect Norway as if it were Long Island. That is in the NATO Treaty.

We have to either face up to the fact that we cannot meet all of these commitments, or we have got to fund them. You cannot expect us to say that, well, we will just cut the number of ships. For instance, I said that 60 percent of our budget goes to operate what we have today in peacetime, that leaves 40 percent. To take out the Navy's share of what the Budget Committee passed as a cut would be \$6 billion out of 40 percent of our budget. Even in that 40 percent there are some things that you can't really do with prudence. You have to go after the procurement accounts, stop buying ammunition, cancel all of our aircraft programs, take three-quarters of the shipbuilding program; just cancel it. That is what you have to do with this magnitude of cut, and that is not the way to do it.

Those cuts, if they come, ought to be taken in a balanced way, but to do that we have to have a reduction in commitments. We cannot continue to pretend and lie to the American people that we can meet our 40-some treaty commitments, that we can keep our economy afloat, that we can keep the 90 percent of the strategic minerals that come by sea from all of the major continents of the world, and keep the oil flowing, with a fleet that is reduced in readiness, size, and manning that would be mandated by this cut.

POSSIBILITY OF ARMS AGREEMENT

Senator STEVENS. If we are successful in Geneva, and I think that we all wish, hope, and pray that we will be, the net result would be to lower the reliance on our strategic missile forces, and to increase the demands on the Navy. So to carry out the Budget Committee's request at this time is really counterproductive to our obtaining an agreement, is it not?

Secretary LEHMAN. I couldn't agree with you more. I, as you know, spent some time in the Arms Control Agency, and I believe very strongly that we can get an arms reduction agreement. Never

before have we had an opportunity as we have today, to get arms reductions because we have reestablished a sine qua non to get an agreement. We have something to bargain with. We have momentum in our recovery program. What, in my judgment, ruined the flawed agreements of SALT I and SALT II was the fact that we did not provide incentives to the Soviets to make real reductions in either of those because we cut unilaterally. We froze our new programs. We went through the unilateral disarmament of the 1970's where defense was cut 22 percent in real terms.

If we go down that road again, we will, as surely as anything that is true in government, destroy any hopes of getting an arms reduction agreement. In my judgment with a freeze, we are proposing to give to the Soviets, in a de facto unilateral way, everything that we are asking from them, that is to make sacrifices by cutting their own force. Nothing could be more destabilizing.

Senator STEVENS. Senator Stennis.

SHIPBUILDING OVERRUNS

Senator STENNIS. Mr. Chairman, and members of the committee, I marvel here at the recitation of facts, and I know they are facts that the Secretary has given us here with reference to the Navy's record on purchasing.

I have been in touch with it some. I know nothing special about the subject. I could see about a \$3 billion backlog of claims, as they called them then, claims and overruns that had piled up with reference to shipbuilding. We had problem after problem, year after year, trying to get those absorbed. It was becoming a weight around the Navy's neck in getting needed, new authorizations.

I don't claim any special credit for it, but several members of the committee, banded together and said we have got to get those claims out, systematically pay them, or we are not going to have new ships. The Navy was trying, but it wasn't trying hard enough. Anyway, they liquidated them, they got rid of them, and went to a better system of making awards in awarding these contracts.

I am not versed in that, but I know exactly what you did, and it is one of the brightest pages of the history of the military during the years that I have been on the committee that is to be found.

As I understand now, you may be considering going back into the idea of making these awards, talking about second sources, and things of that nature. I don't see why that won't lead us to what I understand was a major part of your problem that caused all those claims to accumulate, running into billions of dollars. What is your response to that?

Secretary LEHMAN. Senator, first, I am very grateful for the way that Congress handled the settlement of the claims in the 85-804 settlement.

I have no knowledge of the intricacies or the merits of the particular claims, however, Congress forced the contractors to take very substantial losses, yet got the settlement out of the way, so that when we came into office, we had only one major claim of about \$100 million being put forward by General Dynamics. We dealt with this claim by just telling them that we refuse to do business that way anymore.

In effect, you had cleared the decks for us to put in place the new reforms in contracting, competition, and tough discipline of our own system that has enabled this recovery program to go so smoothly. We haven't had a claim lodged against the Navy in 4 years for the first time in decades.

You are exactly right. What brought about those claims, in my judgment, was a lack of competition, a lack of internal discipline in the Navy that signed fixed price contracts without having done the design work; and requiring contractors to guess at what the costs would be, and then allowing an internal Navy process to keep writing change orders for every new widget that came along.

If we are cut, we will be forced back into sole source situations which drive you to cost plus type contracts, and drive you to pricing that gives the Government no leverage because you are stuck with only one supplier. That is exactly the kind of environment that leads to claims. That is why major cuts are going to cause such inordinate damage to the way we are doing business today. You cannot keep competition without an effective level of funding.

ACCUMULATION OF CLAIMS

Senator STENNIS. We are certainly talking about the same thing here when we make these statements, and we identify it to that extent. But was I anywhere near correct when I said that it was close to \$3 billion in claims that had accumulated. An unpaid account, that is what the claim was, and it was held to be a valid claim that the Government had to pay because they owed the money.

I just tell you that it was a different Navy from top to bottom when you finally got out from under that cloud. You knew where you were, and you just jumped in there and dug your way out. I know enough about it to know that it saved you a lot of money. Now do you propose to go back into a system that would lead you back into that dark avenue?

Secretary LEHMAN. Absolutely not, Senator, because you are exactly right, it paralyzed the momentum of the Navy shipbuilding program throughout the 1970's. It would be the most catastrophic thing to allow that kind of situation to develop again. It requires discipline internally, in our own requirements and management of contracts, and it requires discipline of the contractors and the requirement that we hold them to performance. Even if it means companies going out of business if they buy in on a contract that they can't perform on, we cannot let them off the hook through claims. This is the policy that we have strictly adhered to. I think that industry has responded very well.

We have totally eliminated the cause of the internal looseness in contracts that enabled claims to be submitted years after the fact, with little documentation, and no pricing. We have eliminated the capability internally for project officers in our own bureaucracy to write change orders.

The Chief of Naval Operations and I, on all Navy programs, and the commandant and I, on all Marine programs, have to personally sign any change order, any engineering change to any ship, aircraft, missile, or any other major program that is under contract.

We are very penurious in any changes we sign. As a result, change orders have almost disappeared, and that allows an environment where contractors can be held to the terms of the contract because the Navy does not provide any opportunity to reopen a contract.

Senator STENNIS. I commend you highly and others, many others besides you in and out of the Navy uniform, who helped bring about this reform—I don't like to use that word but this change that made a reality out of a situation in awarding these contracts so that you knew what the ship was going to cost. And that was just it. The savings matured, and you paid these so-called claims. Frankly, I think that is the key to the great contribution you have made in rebuilding part of the Navy, and putting in the modern ships, or more modern ones, and getting them in time.

Mr. Chairman, I have this question stated here in my written statement. Rather than repeating it, I would like to put the question in the record for the Secretary's examination, and anyone else that may be familiar with the problem. They can further answer the point that I have raised for the record if they see fit. Mr. Chairman, may I insert this question in the record?

Senator STEVENS. Certainly, Senator.

Senator STENNIS. I have some other questions but I know my time is about up, so I yield for the time being. Thank you very much.

Senator STEVENS. Thank you, Senator.

Senator McClure.

STATEMENT OF SENATOR MC CLURE

Senator McCLURE. Thank you very much, Mr. Chairman.

Mr. Secretary, it is a little difficult for many of us here to say as much as we would like to about the kind of performance you have brought to this job because we have two colleagues in the Senate who are former Secretaries of the Navy, so we can't very well say that you have the best thing that ever happened to the Navy.

Certainly, I don't want to pass the opportunity to add my commendation for what has been accomplished in your tenure in that office. It is impressive, and I join in the comments that have been made.

Secretary LEHMAN. Thank you.

Senator McCLURE. If time were granted, I would add to those.

Secretary LEHMAN. Thank you.

Senator McCLURE. We tend many times in the hearings either to make platitudinous commendations or, in the opposite extreme, nitpick on some small things that we are concerned about. I want to make certain that I don't do either excessively.

NAVY PROCUREMENT PROGRAM

I want to springboard for a moment off the statement made by the distinguished Senator from Mississippi who brings to these discussions many, many years of observation and very wise counsel, focusing on one aspect of your procurement program that is troubling to some of us and upon which the Congress has acted.

Without going into the questions of all the reasons why the Congress directed in title X of the United States Code, section 7302,

that there be west coast ship procurement, certainly it supports the statement that the Senator from Mississippi was making, that if you are going to get away from sole source contracting, and if you are going to have west coast capability, you have to have more than one shipyard that is capable of contracting. You have to have enough diversity to be able to have the competition that you believe, and I believe, helps protect the taxpayers' interests.

The code section to which I refer was the result of the deliberation by the Congress and the agreement of the administration that, indeed, there need to be a west coast capability for national security reasons. I will not go into all of those reasons. That requirement says that the Navy shall have constructed on the Pacific coast of the United States such vessels as the President determines necessary, and so on. I think you are familiar with that issue.

The law refers to construction, not to repairs. If my information is correct, there is only one guided missile frigate under contract in any west coast shipyard, the balance is repair work. Am I correct in that statement?

Secretary LEHMAN. There are several frigates finishing out on the west coast. Because of that law, just this past year, I awarded a \$340 million frigate to Todd-Long Beach, and they are just beginning work on that ship. It is not clear that they would have won that contract had I not used this law.

We also have several LSD-41's under construction in Seattle, and we have a number of TAGOS ships under construction in Tacoma. So there is new construction going on on the west coast.

CONSTRUCTION VARIATIONS

Senator MCCLURE. That type of construction is quite different from the major ship construction that is the basis of the infrastructure in a major shipyard, is it not?

Secretary LEHMAN. First of all, it is very hard to distinguish between the capabilities and skills that go into shipbuilding and those that go into ship overhauling and repair. They are essentially the same skills. It is design engineering, essentially, that is the only missing aspect, and much of that is provided by the Navy itself in our ED community, the Navy Sea Systems Command.

The amount of overhauling that is virtually guaranteed to the west coast for the long term future will virtually guarantee the maintenance of the industrial base to provide the potential for shipbuilding at any time we want to start it. But, we also want to keep the west coast competing with those skills in building new ships in our naval program, and we are very anxious to keep three combatant yards, including one on the west coast, participating in the new destroyer program.

We are going to award the lead ship of the *Arleigh Burke* class in the next couple of months. We are now 1½ years behind our original schedule for award because we have, as I have outlined, changed our policy. We are no longer going to award ships that are not fully designed because that was what led to cost-plus contracts or to the claims producing total package procurement approach that got the 963 and the LHA programs in trouble in the 1970's.

So, we have kept all three contractors participating in refining the design so that they can estimate accurately for a fixed price bid. Therefore, the bid will be awarded to the lowest priced bidder, and I will not support an award to a higher priced bidder simply because he is on one of the three coasts that are bidding. We have an east coast bidder, a gulf coast bidder, and a west coast bidder, and the chips will fall where the lowest price takes them.

After that, in the production phase, we want to keep enough ships in the budget to keep all three yards producing because this is exactly the formula in the FFG program, that produced the most successful long term shipbuilding program we have had since World War II.

We want to keep three yards, but the west coast is going to have to shape up. There is no reason, no inherent reason, with 21 yards competing against each other, why west coast yards have to be less productive, regardless of what their labor rates are, over the long term, than east coast and gulf coast yards. It is the same country. We are not going to provide a subsidy, a guaranteed subsidy, to one coast to allow them to maintain inefficient practices or \$3 differentials in hourly rates, which would just simply continue to subsidize inefficiency.

MAINTAINING WEST COAST SHIPBUILDING CAPABILITIES

Senator McCLURE. Mr. Secretary, I understand that, and I certainly don't want to be understood as trying to force you to adopt practices that don't protect the taxpayer. At the same time, we do have, for all the reasons that have been outlined, a strong desire and a national need to maintain west coast shipbuilding capabilities. Congress felt that strongly enough that it is written into the statute.

I am not going to quarrel with you about whether or not there ought to be any awards made in spite of the bidding practices or the bidding results, but the law requires at least some result. The law didn't say, in effect, if you agree with it, you can do it that way. It says, do it that way, and that may force some decision.

I certainly will share with you the effort that is made to analyze and to get the west coast shipyards shaped up with respect to their competitive or lack of competitive practices. But, indeed, you find that it is impossible for you to comply with the law, then I suggest that the way to get solved is to come back to us, and not just flout the law?

Secretary LEHMAN. I agree, Senator, and we would never consider flouting the law. It is that law precisely, that has led us to award ships to high bidders in the past, but there is a limit to how far we can let that practice go.

Senator McCLURE. I understand that, and I hope to work with you in trying to find where that limit is. I am concerned, I don't want to waste our money.

Senator STEVENS. Would the Senator yield to me?

Senator McCLURE. I will be happy to.

CONTRACTS UNDER BUY AMERICA CONCEPT

Senator STEVENS. The law used to provide a percentage incentive for awarding contracts under the Buy America concept. You now have a policy of 100 percent allocation to domestic shipyards. As we were talking about earlier this morning, I say to the Senator from Idaho that there is indication that recent awards to Korea were 25 percent, as a matter of fact one was 20 percent of the cost of comparable construction in American shipyards.

I say to my good friend from Idaho, I am not going to support the award of contracts to the west coast just to keep the west coast shipyards open if they continue to run at the rate that they have in the past, so far in excess of even the other domestic shipyards.

I think we ought to explore having some of our components of these new vessels built in those foreign shipyards that are coming in at 20 and 25 percent of the total cost. It may be the only way that we are going to get to the 600-ship Navy if the Budget Committee keeps it up.

I am very serious. I want a 600-ship Navy, and I think most of us do, and I don't want to see us locked into a procurement concept because of the law that my friend mentions that requires us to allocate ships to the most inefficient shipyards in terms of cost.

Senator McCURE. Let me say to my friend from Alaska, I understand the frustration, and I think that is a fair shot across the bow to the west coast shipbuilders, and I hope that they pay attention to it. But where would we have been after Pearl Harbor if we had depended upon Japanese shipyards to repair the vessels that they destroyed at Pearl Harbor.

Senator STEVENS. I couldn't agree with you more.

COMPETITION FROM U.S. SHIPBUILDERS

Senator McCURE. There is a limit to which the security of this country can be vested in the productive capacity of other countries. I want ours to be able to compete.

Let's remember, too, there is a little differential in the currencies between the United States and Korea that doesn't really allow us to compete favorably, and there are extensive studies about the subsidies by the foreign governments to basic production that allow them to bid underneath our domestic suppliers.

Yes, we can be penny-wise and pound-foolish in my judgment by closing down our own productive capacity, be it steel, copper smelters, or basic mining, or basic production in this country, and destroy the security of this country, because we don't just fight a war by what we have on hand at the beginning of the war. We won World War II because of our productive capacity, not because of our inherent goodness. We won it because we had the time to use the industrial might of this country.

We now have commitments in two oceans. We have a two-ocean Navy, and necessarily so. This Congress and this Government, in its lack of wisdom, has given away our control of the Panama Canal to the point where we are no longer as secure in the ability to move elements of the Navy to the east coast for necessary repairs than we were before.

We have a war in Central America that has the potential of threatening the continuance of that particular link of commerce, particularly in times of trouble. That is the only time when we are really worried about it, that is in time of trouble. We are not worried about it so much in peacetime.

Yes, I know, if we go to war, we will send all of our Marines down there and fight to take back what was once ours, and the Marines are ready to do it, aren't they, General, if called upon to do it.

I think there is an element to national security that lies in economic procurement. There is an element to national security in maintaining production facilities in the areas where we need them, and will need them in the event of hostilities.

Mr. Secretary, I only mention that because low-cost bidding, the lowest cost contractor is one element, but it is not the total element. I think if we sacrifice ourselves on that Holy Grail, we may indeed find ourselves in some kind of trouble at some point in the future.

DISMANTLING OF "POSEIDON" SUBMARINE

Mr. Secretary, the Navy is planning to spend \$21 million to dismantle the first of four or more Poseidon submarines in order to comply with the unratified SALT II Treaty. Am I correct in that?

Secretary LEHMAN. That is correct, Senator.

Senator MCCLURE. That is administration policy not required by statute. Is that correct?

Secretary LEHMAN. That is correct, Senator. There is some controversy over the Arms Control Act of 1961 which requires congressional action for implementation of arms control agreements, but essentially what you say is correct.

Senator MCCLURE. I am concerned that we limit ourselves in the very areas in which the Soviet Union has failed to comply with treaties. I am not suggesting that we abrogate treaties because of marginal violations, but I am suggesting that when we see measurable violations by the Soviet Union of treaties, whether in force or just simply being observed, that we be in a position to protect ourselves and our necessary security requirements by taking actions on our side to protect our own security.

I know that the SALT II Treaty has constrained Soviet behavior in some respects, but I know also that they violate the SALT II Treaty in some noticeable aspects that affect the military capability of the Soviet Union as contrasted to that of the United States.

I question very seriously a policy that says, we will adhere to the letter of a treaty, even though it has not been ratified or whether or not it has been ratified, and at the same time accord to them the right to violate it in some essential respects with no response on our side, other than to say, that is naughty. I have never assumed that they were nice.

Secretary LEHMAN. Senator, we have maintained the money in the budget to keep our options open. Whichever way the President decides, we are prepared to implement the policy. That decision is, I believe, pending. The issue is joined when *Alaska* goes on sea trials in September.

Senator McCLURE. Mr. Chairman, I have a couple of other questions that I will submit for the record. Thank you very much.

Senator STEVENS. As a matter of fact, I think all senators have questions to submit for the record at the appropriate time.

Senator Proxmire.

Senator PROXMIRE. Thank you, Mr. Chairman.

Mr. Secretary, as Senator McClure pointed out, two of your predecessors are now in the U.S. Senate. I know, unfortunately, that both are Republicans. If you decide to run for the Senate, I hope you will give it a little balance. [General laughter.]

Senator PROXMIRE. I also hope, if you decide to run for the Senate, you won't decide to make it 1988 and move your residence to Wisconsin. [General laughter.]

Senator STEVENS. Is that a declaration of candidacy?

Senator PROXMIRE. It may be a subtle implication. I don't know, I will jump off that bridge when I come to it.

COST OF MAINTAINING NAVAL COMMITMENTS

Mr. Secretary, you and Chairman Stevens, I thought, made a very good point on the unavoidable cost of maintaining our naval commitments. Much as we want to cut this budget in every way that we possibly can, and I am sure you are determined to do what you can do to contribute to that, we do have commitments, and it is going to be extraordinarily hard, particularly with no leeway just in the next year, to make the kind of cuts that we are urged to make in the naval operations.

I think that you do make an excellent point, and I concede that. Now I would like to ask you about something else.

Mr. Secretary, as you know, my Joint Economics Subcommittee has been looking into Navy shipbuilding and its effects on the shipbuilding industry. We have been focusing on Navy contracts with Electric Boat. I invited you to hearings last July, and you couldn't come. Instead, you sent someone who I consider to have been poorly prepared and unable to participate meaningfully in our inquiry.

I plan to hold further hearings later this month, and I am now inviting you to testify. Will you appear?

Secretary LEHMAN. Of course, if that is the decision of the Secretary of Defense, Senator, sure I will be happy to.

Senator PROXMIRE. I have some other questions that I am going to ask you now, but I also have some questions on the Electric Boat situation for the record. I hope that you will answer those for the record when you correct your remarks.

Secretary LEHMAN. Certainly.

OCEAN SAFETY FACTOR FOR U.S. SUBMARINES

Senator PROXMIRE. Last year, in your questions and answers—I asked you about this—you indicated that the oceans are getting safer for our submarines rather than more dangerous. Do you still hold to that position, and would you explain why you hold the position you do?

Secretary LEHMAN. Yes, Senator; because the trend is making submarine technology more able to hide submarines, or making the detection problem much more complex.

Senator PROXMIRE. We are making real progress in that area?

Secretary LEHMAN. We are making steady progress in quieting, and also in signal processing. Unfortunately, the Soviets are closing the gap somewhat in their speed with which they steal our technology, Western signal processing, and the art of submarine construction, more rapidly than we had hoped.

SOVIET THEFT OF U.S. TECHNOLOGY

Senator PROXMIRE. Incidentally, anything that you can suggest to us, I know Senator Garn will be interested in that, too, that would help us inhibit that theft. I know there are some practices we have that we have been critical about, but anything you could supply us with would be extraordinarily helpful to us. We are inquiring into that very thing right now.

Secretary LEHMAN. I will be happy to supply some recommendations for the record on that. I feel very strongly about it.

[The information follows:]

TECHNOLOGY TRANSFER

Technology Transfer is a National security issue since it is the application of technology which enables our military to maintain superiority over the Soviet's numerically greater forces. Prevention, enforcement, and awareness are key elements in improving any security system. Prevention, enforcement, and awareness are key elements in improving any security system. Prevention and enforcement require resources. Additional billets are required in all Military Departments and in OSD to expeditiously and thoroughly review the increasing numbers of export license requests, including the West-West cases. Manpower is needed to research technology diversion cases so that conduits for technology leakage can be identified and future diversions preempted during the license review process. Another preventative measure is to amend appropriate legislation (such as the Space Act) to require DOD involvement in reviewing technology cooperation programs which various government agencies sponsor. It seems foolish to worry about technology leakage for the sake of U.S. military superiority and fail to include DOD in the review chain for U.S. Government international technology cooperation programs. I am opposed to bureaucratic layering in government, but DOD involvement in international technology transfer programs is important to maintain consistency and prevent critical technology and advanced military capabilities from slipping through the system.

The Treasury Department's Operation Exodus is leading the enforcement effort. Increased support for Exodus should be considered. Expansion of manpower in our intelligence agencies and our embassy staffs would also contribute to the enforcement effort by placing additional officers in the field.

The least expensive suggestion I have is the increased awareness and appreciation by all high level government officials of the potentially precarious position in which our military forces are placed as a result of the eroding technology and capability gap between ourselves and our potential enemies. This situation must be recognized in international negotiations involving the transfer or disclosure of U.S. technology. This awareness issue must include recognition of the difference between advanced state-of-the-art technology as viewed from the research scientist's perspective and the level of technology our military personnel are employing. An appreciation for the clever and unique Yankee ingenuity applied to mature technologies is also important and, in some cases, should also be guarded. The export of production technology provides an immediate threat to the technology gap. The ball bearing manufacturing machine export of several years ago that enabled the Soviets to improve their MIRV accuracy many fold, is a good example of unclassified production technology which significantly enhanced Soviet strategic military capabilities. The potential to apply a given item or technology to a military capability or equipment must be fully evaluated in all international cooperative programs. High level government officials must recognize the cost to the U.S. in terms of national security

before embarking on cooperative programs. DOD participation in the review of these cooperative programs would provide insight and improve the awareness factor of the military implications on cooperative programs.

SUCCESS WITH COCOM

I think we have made progress in the past several years with COCOM and internally within the U.S. Government. The Secretary of Commerce has taken a much more active role. I think we are definitely making progress, but the hemorrhage is still there. Then, of course, much of it is not theft, it is give-away.

Senator GARN. If Senator Proxmire would yield for just a comment.

Senator PROXMIRE. Yes, indeed.

Senator GARN. I wholeheartedly agree. I won't be able to stay long, and I will have to give my own questions for the record.

PROBLEMS IN COMMERCE DEPARTMENT

John, you know where the problem is, it is in Commerce. Bill and I have fought this battle over the Export Administration Act now for 3 or 4 years. Despite the fact that the hemorrhage continues, there are internal problems in this administration where we cannot get our act together. I have been in the middle of that fight between Defense and Commerce. Commerce's job is to sell everything they can, that is why it is the Commerce Department.

We can talk about all of the recommendations we want, the hemorrhage will continue. It causes billions of dollars of additional defense costs because of them using our own technology against us. Until we get cooperation internally within our own Government, and in the House of Representatives, we are not going to stop it.

I don't know how you solve that problem internally and get Commerce to come around, but Commerce has been a total failure to every administration I have served with in trying to stop the flow of technology. It doesn't matter whether Jimmy Carter is here, or Ronald Reagan, the Commerce Department rolls on and on and on, uninterrupted by the fact that we are having a defense problem:

FREEDOM OF INFORMATION ACT

Secretary LEHMAN. I agree, Senator, but the Secretary of Commerce highlighted a very valid issue. The advent of the Freedom of Information Act has opened the floodgates of technical information to the point where it just totally swamps our ability to declassify effectively because there are such strong sanctions against any delay in meeting these requests.

You have seen these stories about the tons of documents the Soviet Embassy and various agents request every day. There are companies that have sprung up whose whole business is using the Freedom of Information Act to gain Xerox copies of things to sell to industry and abroad with no control. We need to address that. We just can't keep up with the flow and adequately filter and protect the information today.

TRIDENT PRODUCTION

Senator PROXMIRE. Mr. Secretary, Senator McClure referred to getting away from sole source, and all of us want to do that. In an emergency could we produce Trident submarines at Newport News or at other yards?

Secretary LEHMAN. Within 2 years, we hope. Newport News, in their new facility improvement program, they are investing some \$300 million of their money into a land level facility that will be able to produce Tridents.

Senator PROXMIRE. Do we have any standby facilities for producing submarines in Government yards?

Secretary LEHMAN. Yes. As you know, we built submarines at one point in seven of our naval shipyards, and we could do that again. At the time we had our difficulties with Electric Boat in 1981, when I stopped all contracting with them, we looked very carefully and decided that we had the capability at several yards, including Portsmouth, Mare Island, and several others to produce nuclear submarines.

IDENTIFICATION OF MISSILE-CARRYING SUBMARINES

Senator PROXMIRE. Is it possible to identify, for arms control purposes, submarines carrying strategic cruise missiles and submarines with no strategic attack purpose?

Secretary LEHMAN. The problem with strategic missiles is a little easier than, for instance, theater missiles. Strategic missiles are big enough so that you can pretty well verify which kinds of submarines have the capability to fire them. Shorter range missiles, for instance, a Soviet SSN-X-21, or the Tomahawk, of 1,500 to 2,000-mile range, are much more difficult to verify, and, in my judgment, would require some kind of onsite inspection.

Senator PROXMIRE. There is a controversy in this body, as you know, as to what kind of constraints we will have on the naval budget, and on the military budget generally. It has already been discussed to some extent. It comes from another aspect, too.

SDI PROGRAM BUDGET

If the strategic defense initiatives, so-called "star wars," continues to grow as planned over the next 5 years, with \$25 to \$30 billion of expenditure, and the Congress constrains the real growth expansion of the overall defense budget to about 3 percent, what will be the impact on naval conventional warfighting capabilities? Won't some programs be squeezed out or reduced?

Secretary LEHMAN. It depends on the balance. The basic principle at issue in the SDI is to start channeling the money, roughly 14 percent of the defense budget that goes to strategic forces, into protecting the American people instead of avenging them.

Senator PROXMIRE. There is a long, long window of vulnerability, isn't there, before we can get that deployed and in place.

Secretary LEHMAN. It will be long in coming, but it is the kind of thing that a little bit of is better than none. It does have a stabilizing effect as its capabilities increase, so you don't have to get to 100-percent invulnerability to start getting the payoff. It just seems

to be much healthier to channel our activities into defense rather than more warheads, and more offense.

UNITED STATES/SOVIET NAVAL COMPARISONS

Senator PROXMIRE. You said that our Navy is outnumbered 3 to 1 by the Russian fleet, but we make up for it in qualitative features. What are the numerical comparisons when factoring in our allies, NATO versus the Warsaw pact?

Secretary LEHMAN. I have tried to emphasize in each of my appearances, how essential our naval strategy is to the participation and continued modernization of our allied navies. Our ability to achieve the minimum naval superiority necessary to use the seas in conflict depends totally for its success on those numerical levels the allied navies give us.

Senator PROXMIRE. What would be the ratio there, Warsaw Pact versus NATO?

Secretary LEHMAN. The Warsaw Pact versus NATO, taken together, gives NATO a clear advantage in virtually every category except submarines. This is why we can say with confidence, that when we execute this program, we will have superiority, and it is almost insensitive to what the Soviets do to respond to it.

It does depend however, on the allies holding up their end. We depend on them, for instance, to provide 150 diesel submarines, which are very valuable for their coastal and choke point defenses. If they were to stop modernizing their diesel subs, we would have to start building them.

NAVAL TONNAGE COMPARISONS

Senator PROXMIRE. How about the comparative statistics on tonnage, United States versus the U.S.S.R., and NATO versus the Warsaw Pact?

Secretary LEHMAN. When you add NATO and our other friends that we believe we can count on in a global conflict with the Soviets, we have a clear tonnage advantage over the Soviets.

Senator PROXMIRE. Do we have a tonnage advantage even without allies if you have the United States versus the U.S.S.R.?

Secretary LEHMAN. It becomes about a wash when you delete the allied navies.

Senator PROXMIRE. Just a couple more very brief questions, if the chairman will permit.

UNITED STATES/SOVIET FLEET SUSTAINABILITY

Can you compare the sustainability of the U.S. fleet versus the Soviet fleet?

Secretary LEHMAN. Sustainability today, in my judgment, is much less for the United States Navy than the Soviet Navy only because they have shown the ability to generate vast stocks of weapon systems. It depends on how you define sustainability. Their ships are designed essentially to carry more initial punch, what Gorschkov calls "the battle for the first salvo," and less depth in magazines, and so forth. They have less capability to immediately resupply. But if you define sustainability as the numbers of mis-

siles in their depots and magazines, they have a clear advantage because they have been building for much longer than we have.

STEAMING TIME COMPARISONS

Senator PROXMIRE. The last question is on steaming time. Are we way ahead of them in the time that our ships spend at sea?

Secretary LEHMAN. I think that we spend too much time at sea. We spend more than 50 percent of the time steaming as an average, and I think that is too much. It wears out the ships and the people. The Soviets are down closer to 15 percent, and that is too low. The optimum for readiness, morale, and capability, and not wearing out your ships, but keeping them at a peak to fight is somewhere between what the Soviets do and what we do.

Senator PROXMIRE. My time is up, Mr. Chairman. Thank you very much.

Senator STEVENS. Thank you.

Senator Rudman.

EFFECT OF BUDGET CUTS ON READINESS

Senator RUDMAN. Thank you very much, Mr. Chairman.

Mr. Secretary, Admiral, and General Kelley, I am sure you will not be surprised at the line of questioning I wish to pursue.

I want to thank publicly Capt. Tom Lynch, the legislative people, and the people in your office for being very forthcoming in supplying us with information that we have requested over the last several months in developing this proposal. I am fully aware that it is a little like asking a fellow to hand you his gun knowing that you are going to try to shoot him between the eyes. That, of course, has not been our intention at all.

I think that as you look at what has developed at the Budget Committee, and listen to what our chairman has said quite accurately, there are some very difficult choices being faced. Historically what has happened, and what I fear and did fear would happen when I developed this proposal, is that the defense will be restrained in a way that will affect readiness, and will affect procurement of systems that are well along at no real savings, savings which will be illusory, and over the long run will destroy what we have been trying to do over the last 4 years.

It was with that in mind that I developed this proposal, knowing full well that the Navy has very sensitive problems in terms of the number of people at sea, the rotations, and so forth. I know that no proposal that attempts to apply itself across the board does not have problems as you try to apply it to particular situations. Having said that, I just want to go over a few numbers with you and get your reaction.

As you know, the proposal is designed not to affect combat forces, direct support forces, or in many cases indirect support forces. It is, however, directed at that vast bureaucracy which does exist across the entire Defense Department and, in my view and the view of many learned defense analysts, in all three of the services.

I have here the printouts that your people furnished me as well as a number of graphic charts. I just want to address myself to

those, and I will talk only about civilian employees, not about military employees, that is a whole different subject which I intend to pursue with you at another time.

PERSONNEL

According to your September 1984, printout, you have 297,000 civilian employees in the Department of the Navy. They are broken down in such areas as engineering and science, 16,000; scientists and engineers, 36,000; management and administrative, almost 44,000; and so forth.

Looking at the major commands themselves, and leaving the smaller groups, such as your office, the staff office, and some of the field offices, we will go through a few of these with you. The Office of Naval Research, 4,000 civilians; the Naval Medical Command, about 10,000 civilians; the Navy Air Systems Command, 42,000—I am rounding these to the closest thousand—Military Personnel Command, not bad at all, very few, about 3,000; Naval Supply Systems Command, about 24,000; Navy Sea Systems Command, 110,000; Naval Facilities Engineering Command, almost 18,000. Those are the major ones.

In addition to all of those major bureaucratic commands, and the things that they do, in the documentation that I have and I had several months ago, there is an enormous number of uniformed personnel who, for mobilization reasons and others, are in what I would call management slots.

Given the choice that we have here, I have made the deliberate choice and will pursue right to the floor until I am finally defeated on it, that I would rather make some reductions in what can legitimately be called indirect and auxiliary services rather than take one marine, or one mechanic, or one pilot, or one doctor who is with the fleet, or a soldier, or a tank, or an Air Force plane, or whatever. I would rather hit that bureaucracy once and for all without affecting your actual direct end strength. Given those choices, do you agree with my choice?

Secretary LEHMAN. Captain Lynch, would you see me after the hearing, please? [General laughter.]

Senator RUDMAN. I would say that there was a small amount of coercion involved, but Captain Lynch was very forthcoming. I think he knew that to do otherwise would not make for a very pleasant hearing today, Mr. Secretary.

Secretary LEHMAN. First, Senator, I agree with you fully that we are grossly over-staffed in the executive branch, but in the same proportion that you are in the legislative branch.

Senator RUDMAN. I agree with that completely.

Secretary LEHMAN. I think we could save a great deal of money by getting at that percentage and the right part of the overhead that deals with each other. In one survey, some 75 percent of our staffs manhours are spent dealing with other staffs, and that is very heavily driven by the explosion of subcommittees up here on the hill.

It wasn't many years ago that we only dealt with your subcommittee and three others in the entire Congress. Today, we deal with 32. This very morning, we are before five different subcommittees

up here, just the Navy. Each of those provide massive requirements in themselves plus the requirements we get from CBO, OTA, the many different subgroups that have been set spinning. In addition, we now have nine specified unified commands in the chain of command. We have 11 independent defense agencies. There is an enormous amount of dealing with each other, and the volume of paperwork is horrendous.

I support the thrust of what you are attempting to do, but let me urge you to take real care in how you do it because it can just as easily make the matter worse by hitting the wrong targets, as it can help if it hits the right targets.

In other words, you will paralyze us further if you mandate cuts that are not reflected elsewhere in the parts of the bureaucracy that they have to deal with, because then the producers that you leave in place have to drop what they are doing, drop their tools, and go fill out the paperwork for FOIA, and for dealing with the OTA queries, and the 500 QFR's that we get from every subcommittee, and we would get more gridlocked.

Yes, there is tremendous overhead, but it spreads throughout the Defense Department, throughout the executive branch, and throughout Congress. It has to be dealt with as a whole. I think you are taking a good first step.

Senator RUDMAN. Mr. Secretary, I think one of the big mistakes this Congress makes is trying to micromanage your office, the Navy, the Marine Corps, or any part of this bureaucracy. Every time we try it, in the long run, I think we do it poorly.

I think we can set some broad parameters that give you the discretion to do the kinds of thing that you have a little difficulty doing for various institutional reasons. But if you are given discretion, and mandated by the Congress to make these reductions in bureaucracy, it seems to me that you would better absorb the \$21 billion that it will in fact save over a 3-year period.

You might be better off to find a way to do that rather than to see us doing the kinds of things that are anticipated by action here in this Senate which start to decimate your readiness, your procurement program, and put you back where you were in 1980. I am looking for some cooperation because I believe that if we cannot do it in this way, then you are going to have some choices that you don't want.

I will yield to Senator Kasten, who wants to ask a question.

Senator KASTEN. Senator, thank you very much.

I am chairing a hearing downstairs with the Secretary of State. I simply wanted to come up and say that we look forward to working with you again this year.

I would like to ask, Mr. Chairman, if I could submit a number of questions for the record having to do particularly with the mine-sweeper program.

Senator STEVENS. Certainly, there is no problem.

Senator RUDMAN. Mr. Chairman, I am completed. I just would like to say to the Secretary, Admiral Watkins, and General Kelley that I will submit, for the record, that I am further developing implementation of my proposal to meet the very kind of concern that you have.

I am interested in some real progress in reductions that will let us keep our readiness at the level it is, but the choices, I think, are much too horrible to contemplate.

Thank you, Mr. Chairman.

Secretary LEHMAN. Let me just add that I would much more support that approach than the approach of freezing military pay. If we have to take cuts out of personnel, let us take them, and not fall back into the trap of freezing pay and repeating the mistakes of the 1970's.

Senator STEVENS. Senator Inouye.

COMBAT READINESS OF U.S. SHIPS

Senator INOUE. Thank you very much.

Mr. Secretary, about 5 years ago the then Chief of Naval Operations reported that about 20 percent of our ships were not combat ready because of the lack of trained personnel. What is the situation today?

Secretary LEHMAN. I would like to defer to Admiral Watkins to answer that.

Admiral WATKINS. Senator Inouye, I think the greatest contribution that the Congress has made to readiness of the Navy, and readiness of all the military, over the past few years has been their willingness to support our people. Without any question, the people side of the readiness equation has driven our readiness to the highest level, in my experience and certainly since the end of World War II.

We will have taken the 22,000 critical skill shortfall, that Admiral Hayward talked about as the hemorrhage of talent, down to around 3,000 to 4,000 by the end of this fiscal year. That is a manageable level. Now we are able to adjust that and fine tune it so that we are seeing all of the benefits of that manning level impact on other elements of the readiness equation, such as corrective maintenance which is significantly down. Mean time between failures has increased significantly because of the ability of trained technicians to properly maintain their equipment. We have seen the material readiness of our ships go up staggeringly high, and at a rate directly proportional to the personnel equation.

So, we must never forget that readiness is people primarily, and it is spares and other things secondarily. You in Congress have not only supported us in the compensatory areas, but in the benefits areas as well. For example, we now have 62 funded, authorized, and constructed family service centers. We were never able to provide such services until recent congressional budgetary support in this area.

We have always accepted, under a draft environment, that we could figuratively keelhaul our careerists to the last 10 years of service because of the retirement benefit. That simply was not the case in the last decade. It got to the point where retirement benefits alone could no longer provide adequate retention incentive. Our people were down on their knees and crying for help. Congress came to our rescue in about 1980 and it has remained supportive ever since.

Again, I would stress what the Secretary said. We have eliminated the problem, but there is a general thrust, because of the lack of constituency for manpower and people, that somehow we can hack away at those areas, that they will be the scapegoats for some of the outlay reductions and other problems that might be levied on us. We don't want to do that again. Readiness will immediately decrease with even the perception of doing the kinds of things to our people that we did in the last decade.

We are solid now for the first time, and I think I speak for General Kelley and all of the other service Chiefs, when I say that this is the No. 1 thrust for us. If we are given the option, we will make any kind of personnel cuts, or any other cuts regarding our personnel the last items addressed in order to meet any kind of budgetary targets that the Congress may give us.

CIVILIAN TEAMS IN NAVY PROGRAMS

Senator INOUE. A recent TV program related to General Dynamics. I think that all of our offices have been receiving letters by the bushel. I realize that the matter is now in the hands of the grand jury, but to the extent possible, could you tell us anything about the former Assistant Secretary?

Secretary LEHMAN. Yes, I think that one of the greatest advantages that we have had these last 4 years is that we were able to attract one of the highest quality civilian teams to compliment one of the very highest quality military teams that the Navy Department has ever enjoyed.

One of the real stars was George Sawyer, who I was able to recruit from a very important and lucrative job as president of a major company, to come into the government to serve in a newly created job, which was the Assistant Secretary for Shipbuilding, to take hold of what was a very disparate and difficult problem brought on by a decade of claims and very low budgets to bring about a major change in the way we do business, and to get our shipbuilding program able to carry out the President's requirements.

George Sawyer played the key, driving role in putting together the initiatives for rewriting all of our terms and conditions to eliminate the cause of claims that plagued us through the 1960's and 1970's. He was the initiator of the action to drop all contracting with the General Dynamics Corp. until they shaped up.

He was the designer of the new contract forms that enabled us to speed up the aircraft carrier *Teddy Roosevelt*. That ship is 18 months head of schedule thanks to his renegotiation of the contract with Newport News, and it is nearly \$140 million under the budget.

He has made a spectacular contribution to the United States, and the health of the Navy. There is no question in my mind that there wasn't the least bit of impropriety involved in his eventual going to work for General Dynamics. If anything, General Dynamics may have hired him to get him off their back because he was so effective in straightening them out, in toughening up the terms, in contemptuously throwing out the \$100 million claims that they

were putting forward. The Nation should be very grateful to him, and he has my total personal confidence.

WARRANTIES

Senator INOUE. When I purchase a car from General Motors, I get a warranty on parts, 50,000 miles, 5 years. When Pan American purchases a Boeing 747, they get engine warranties. When the Navy purchases aircraft or vehicles, do you get any warranties?

Secretary LEHMAN. This is an interesting question because we started out 4 years ago taking a somewhat different position on warranties, a much tougher position. We felt that there is an implied common law warranty for good performance in any contract.

You don't have to have the specifications, the limit of a 50,000 miles/5-year type of specification. If a wheel falls off, you have an implied warranty that it shouldn't fall off. You paid for a wheel that would stay on. So we started enforcing it that way successfully.

When the amendment on warranties was put forward 2 years ago, we were a little reluctant coming aboard because we feared that by saying that it had to be specified in the contract, you could, in effect, diminish your ability to pursue the implied warranty. But, it hasn't worked out that way.

I think the net result of that amendment was very helpful to us, there are things that you can better specify in the contract. But, we are still relentlessly pursuing what we feel is a firm common law right of implied warranty. For instance, the F-18 tail, nowhere in the F-18 contract is a warranty on the tail specified. But we took the position, they had an implied warranty to give us sound engineering, and that was not sound engineering. Their engineers whom we paid handsome wraparound rates to in the cost-plus development contract screwed up, and we have contractual warranty implied and supported in common law that they will pay to fix it. So they did.

IMPLIED WARRANTIES IN ALL SERVICES

Senator INOUE. Would you say that the other services are doing the same, relentlessly pursuing implied warranties?

Secretary LEHMAN. I can't, of course, speak for the other services, but I think the basic thrust for this whole approach comes from Cap Weinberger. Cap makes the policy and firmness he wants applied very clear and, he doesn't micromanage us on how to do it. All of these things that we have laid out before you, competition, second sourcing, and firm pursuit, really have their source in Secretary Weinberger.

HOME PORTING IN HAWAII

Senator INOUE. Finally, if I may ask a question that could be described as a matter of parochial concern. As you know, we in the State of Hawaii have been looking forward to home porting for one of the few battle wagons in Pearl Harbor. What is the latest situation?

Secretary LEHMAN. The latest is, that we have done two things. We have narrowed the desirable places to San Francisco and to Pearl Harbor, and we have added nearly 10 additional ships to the package because we have found, as we have studied each of the sites, that it is cost effective to put more ships in those sites once we have done the minimum necessary modification to provide the utilities, and so forth, that are required to put the battleship there.

So, we have somewhat enlarged the package. We have kept Long Beach in for that enlarged part of the package. Now we are proceeding to get down to detailed cost estimating and analysis. We are not running a bidding war. We are not running on auction. But, we have an obligation to put the ships where there will be the lowest cost to the taxpayer, assuming that the finalists are militarily and economically acceptable, which both Pearl Harbor and San Francisco are.

Of course, there is an underlying assumption that we are strongly desired by the communities, and we will not go to any homeport that does not clearly, fully support us. As you know, it is often difficult to accurately perceive this support. For instance in Everett there was constant press about the opposition to the Navy coming into Everett, so they put it on the ballot. It came out 70 percent strongly in favor of the Navy coming to Everett.

So, you cannot judge from the headlines just how strong the welcome is. We will not go where we are not firmly welcomed by the communities. But, assuming that, we will go to the place that has the lowest cost to the taxpayer.

Senator INOUE. I can assure you that you will be welcomed in Honolulu.

Secretary LEHMAN. We are confident of that, Senator.

Senator SASSER. Would the gentleman yield for a unanimous-consent request?

Senator INOUE. Certainly.

Senator SASSER. Mr. Chairman, I apologize for not being able to be here for all of these hearings. I wanted very much to, unfortunately the Budget Committee is meeting today, met yesterday, all of last night.

Senator STEVENS. Perhaps we would be better off if you weren't meeting. [General laughter.]

Senator SASSER. Mr. chairman, I don't debate that with you. I am reminded of a statement that Gene McCarthy said years ago about a football coach. He said, No. 1, you have to be smart enough to understand the game and dumb enough to think that it really makes any difference. [General laughter.]

Sometimes I think that applies to our efforts at the Budget Committee.

I would like the unanimous consent of the chairman to insert some questions in the record for a later date.

Senator STEVENS. We will be delighted if you submit them.

Senator SASSER. Thank you.

Senator INOUE. I have just one short one.

Senator STEVENS. Yes, sir.

U.S. NAVY COMPARISON WITH U.S.S.R.

Senator INOUE. A few years ago the Soviet Navy put on a very impressive show on command and control, and communication capability. How do we compare with them?

Secretary LEHMAN. Without going into some of the important classified aspects of the answer to that question, Senator, I would say this. The Soviets have one of the most robust, most redundant, most capable command and control systems certainly that we have ever seen in the world. It is hardened. It is thorough. They have all contingencies covered. It is a very, very expensive system. Does that mean that it is invulnerable? Of course, not. It is vulnerable just as any of our systems are vulnerable to counterstrategies.

I would say that the United States, with the modernized command and control system that the Congress has now virtually authorized and funded, will soon have a comparable system, with the space sensors, our space communication linkage, and the backups we are now putting into space. With the hardening of our systems coming on line in this decade, we will have a technologically superior system, albeit less redundant and perhaps less robust.

I would say again, it is very important for continuing support for the modernized communications, and command and control systems that this Nation has embarked on at the front of this decade. I consider it to be one of the most important aspects of our deterrence strategy, to be able to demonstrate that we have the staying power to support ourselves under extreme conditions, even with their anti-satellite system working against us. We are moving in that direction very rapidly. It has been thoroughly supported here on Capitol Hill, and I urge that that support be continued.

Senator INOUE. Mr. Secretary, when can we get some word on the home porting decision?

Secretary LEHMAN. We expect to have a final decision before the 4th of July.

Thank you very much, Mr. chairman.

Senator STEVENS. Thank you.

PILOT REENLISTMENTS

Mr. Secretary, without notification to Congress, in a below threshold reprogramming, the Navy has paid up to \$36,000 a year to certain pilots for reenlistment. How long did they reenlist for \$36,000?

Secretary LEHMAN. For \$36,000, they reenlist for 6 years, Senator.

Senator STEVENS. Is that a payment of \$6,000 per year, or is that \$36,000 upfront?

Secretary LEHMAN. Heretofore, we have paid them \$6,000 a year. We have asked for the reprogramming to be able to pay that in a lump sum. This doesn't increase the amount, but it moves it from the outyears to the present. Because we have had a 75-percent increase in resignations over the last year, that troubles us. We are seeing a downturn, after the tremendous success of that budget, we have seen its pulling power begin to decline.

OFFICER RETENTION

Senator STEVENS. You still have over 80 percent retention in Navy pilots according to our information.

Secretary LEHMAN. No; that is the Air Force figure. Our overall figure is about 56 percent and dropping.

The problem is primarily in the seagoing communities. The thing that has always driven Navy aviator retention is family separation. That is why our figures have always been substantially worse than the Air Force is or Army's.

Senator STEVENS. It is related to your steaming hours, isn't it? Why do you have greater problems retaining your air officers than you do your deck officers?

Secretary LEHMAN. For one thing, the retention of aviators is driven by a number of factors. Essentially, they are very, very sought after on the outside, not just by the airlines, but across the board in industry. We have a lot of people trying to grab them.

Second, it is a dangerous profession. As you know, we lost nearly 80 people in aircraft accidents last year which was the safest year we ever had in history, and that is a driver. It is still a hazardous profession. But, more than anything, those long deployments on the carriers back to back, 7 months out of each year of sea duty, just make family separation, in any survey we have ever run, the driving negative factor many times more than the next.

The compensation or the bonus is simply an attempt to counterbalance that separation with a more attractive standard of living for the family as a whole. It works, but it has declined in attractiveness. It has been whittled away over the last 4 years, and we need to have its pulling power strengthened. We are going to come up and ask you for a 30-percent increase in the rates, over and above, what we have in this budget.

Senator STEVENS. But you have already implemented it without asking us. Why are you asking us?

Secretary LEHMAN. The current law permits the lump sum. Under its restrictions we are required to target the bonuses which we have done. We now give the bonus only to those communities that have shortages, and they happen to be the seagoing communities.

All we are doing now is trying to deal with the problem with the same amount of money, bunching it up into one lump sum.

REENLISTMENT BONUSES

Senator STEVENS. Mr. Secretary, you use 60 percent of that money now in terms of the reenlistment bonuses for all of the services put together. What you are saying to us is that your Navy pilots are more critical than anywhere else in the services.

I want you to know that you are setting a standard that we see coming now, every critical OMS in the services is now saying, look, Navy pilots are getting \$36,000 for reenlistment, what are you going to offer me? With the stress we have on this budget now, to have that kind of emphasis, constantly increasing in the Navy, which already pays 60 percent, I see the reenlistment budget going off the wall. I opposed it before, and I am going to continue to oppose it,

Bare reenlistment bonuses in areas of critical shortage is one thing, but to have it become routine, that all of your people become critical. I don't think that all of your pilots are critical. Reenlisting pilots are not that critical in my judgment.

I think you are really going to have to reexamine it or we are going to find a situation that the missile operators in the Air Force—I can think of some really critical things in the Marines. The Marines are going to come up and say, what kind of reenlistment bonuses are we going to get. You are putting a stress on us in terms of the computer field, and the competition in terms of computers from the outside world that you won't believe.

I think that you have to reassess this. I am going to ask for a meeting with the Secretary of Defense and reassess it all the way across the board. It is not bad to say, we are paying \$6,000 to a critical pilot in a critical area. But the program we have indicates that you plan to implement this across the board.

Secretary LEHMAN. No; Mr. Chairman, that is not true. First of all, the Marine Corps voluntarily gave up the bonus because they don't have a retention problem with pilots any longer. So we are not paying it to Marine Corps aviators at the Commandant's request.

Senator STEVENS. Now they don't, but as soon as the word is out that you can get \$36,000, do you think that they won't do it?

Secretary LEHMAN. They know that the rules of the game don't permit that. We pay the bonus only where the shortages are. For example, we are not paying bonuses to P-3 pilots because there is no shortage.

Senator STEVENS. How would you like a little wager that the next year the general is going to tell us that we have a critical shortage in the Marine Corps?

General KELLEY. How much is that wager, sir? [General laughter]

Senator STEVENS. Not \$36,000. [General laughter]

Secretary LEHMAN. Mr. Chairman, the point is that we have a direct correlation with the improvement in safety records that has exactly tracked the improvement in retention of second-tour aviators because of this bonus. We have saved more than \$1 billion in uncrashed airplanes, not to mention the lives, because of this increased retention. That is the best deal that I have ever, next to the battleships, put forward to this subcommittee.

Senator STEVENS. I will tell you what, let's just change it, and from now on the marines will pilot the Navy airplanes.

Secretary LEHMAN. They are doing that now.

Senator STEVENS. We don't have to pay them reenlistment bonuses, but we have to pay them if they are wearing Navy blue.

Secretary LEHMAN. They are doing that, Mr. Chairman.

Senator STEVENS. You are asking now from \$6,000 to \$8,000. In the request before us, we were told you had increased it to \$36,000. Now you want to make it \$48,000.

Secretary LEHMAN. We are going to come up and ask you to increase the level to that.

Senator STEVENS. I am told that we are to expect a legislative modification, according to the budget, which will increase it from \$6,000 to \$8,000 per year for a 6-year contract.

Secretary LEHMAN. Right.

Senator STEVENS. That is beyond what they get paid, which incidentally, if you are a major, you get paid more than I do.

Secretary LEHMAN. If you are a nuclear submariner.

Senator STEVENS. If you are going to pay them a \$48,000 bonus for a 6-year term, no one is going to be willing to serve in the Senate. [General laughter.]

Secretary LEHMAN. Mr. Chairman, the fact is that these bonuses produce positive results. They produce uncrashed airplanes. One F-14 that does not crash because we have paid \$36,000 to keep an experienced aviator in the cockpit, instead of putting a nugget in it, pays for the entire program for 2 years.

Senator STEVENS. Where can I reenlist? You get ACEP pay, they tell me.

Secretary LEHMAN. No; you offset it. You make anybody who gets the bonus give up the higher ACIP.

Senator STEVENS. I am going to visit with you more, but I want to go to the general for just 1 minute.

Senator STENNIS. Mr. Chairman, if I may have 2 minutes, please.

Senator STEVENS. Yes.

SHIPBUILDING REQUEST

Senator STENNIS. Mr. Secretary, I understand the Navy shipbuilding request for this year is less than that appropriated last year.

Secretary LEHMAN. Yes, sir.

Senator STENNIS. Would you give us the figures on that and relate the trend in the shipbuilding growth to the growth of the overall defense budget? I ask that in connection with the matter we mentioned here a while ago about the claims that accumulated in the past.

Secretary LEHMAN. Yes, sir; that is a very good point. I will provide you an extensive answer for the record.

[The information follows:]

TRENDS IN SHIPBUILDING GROWTH

The FY 1986 Shipbuilding and Conversion, Navy (SCN) request in Total Obligational Authority (TOA) terms is \$11,411.6 million or \$324.4 million less than the FY 1985 appropriated amount of \$11,736.0 million. It should be noted that the current FY 1985 TOA for Shipbuilding is \$11,584.5 million reflecting a proposed transfer out of SCN of \$151.5 million based on using TRIDENT savings to pay for high priority shortfalls elsewhere in the budget.

The trend in Shipbuilding growth compared to overall Department of Defense budget growth since FY 1981 is shown below:

REAL PROGRAM GROWTH

(In percent)

	Fiscal year—					
	1981	1982	1983	1984	1985	1986
SCN.....	10.5	5.0	81.0	-31.9	-3.9	-6.0
Total DOD	11.6	12.3	8.9	4.8	6.1	6.0

As can be seen, real program growth in SCN has been lower than the total DOD growth in all years except FY 1983 when two carriers were included in the budget. It should be noted that the average real growth for SCN is 4.4% over this period while the comparable growth amount for DOD is 8.2%.

CLAIMS

Senator STENNIS. Mr. Chairman, I have additional questions for the record, one which relates partly to claims.

Mr. Chairman, I would like to make a brief statement here regarding the hearing as a whole. I want to highly commend the chairman and his principal aides, the Secretary and those who assist him, and those who testified with him. This has been a splendid hearing, highly valuable; I am one who appreciates it, as I am sure all of us do.

Senator STEVENS. Thank you, Senator, Your matters will be placed in the record.

Senator STENNIS. Thank you, I yield to the Senator from South Carolina.

Senator HOLLINGS. I thank the distinguished Senator.

Mr. Chairman, I appreciate your giving me this opportunity. I apologize, we are in these marathon sessions right next door, marking up the budget.

Mr. Secretary, I agree with Senator Stevens, our chairman.

General Kelley, you cannot be a good Commandant unless you ask for the same for your men as the CNO asks for his men. That is simple, I mean, that is not complicated to Chairman Stevens; he can see it coming. When we compare the hazards and everything else of that kind, yes; the Secretary can point out the economies of the retention of the pilots, but then when you get down to the bottom line, when we stick it out there and everything, before the others are going to reenlist, they are going to want that same thing.

Senator Rudman's tank commanders for that M-1 tank, why shouldn't they get hazardous pay when the Navy is eating those nice warm meals aboard ship, and they are out there in the cold, wet mud in this silly tank.

RETURN TO DRAFT

I understand your problem. In fact, I am pleased with you setting this example because we are going to return to the draft. Like it or not, I happen to think that it is desirable. The demographics prove that by 1992-93 every other individual youngster between 17 and 21 years of age is going to have to volunteer. That is not going to occur, and we must reeducate the country.

I think your generous bonus is going to reeducate everybody. It is reeducating the Congress right quickly as to the real cost of personnel. We thought that we could do it. We keep on putting more money to it, and more money to it, and getting less troops and less response. So we are meeting ourselves coming around the corner.

Specifically, Mr. Secretary, you see on the budget side, down at the other end of the hall, we all talk in terms of cutting our budgets. Under President Reagan's first administration, we cut the staff, we cut our personal staff, the Departments of Agriculture, Commerce, and all the rest.

After we have cut our staff 10 percent, and the economy is trying to bring the deficit down, we look over into DOD, and we see 97,000 extra civilian employees. Then after I asked Secretary Weinberger what gives, where are they, he says, in the Navy. Can you give me the exact figures?

I know that we have added ships, and we had to take on more maintenance personnel, more crews for the ships, and what have you. But you are not responsible for this massive growth, not over 10 percent, in my opinion in looking at it. In fact, you are looking at cuts that we talked about.

While you were off last week, some admiral let loose a report that they are going to cut everything at the shipyard in my backyard. I was trying to get hold of you before I got lynched so that I could go home for the weekend. If we are going to effect some economies, fine; I am going to support you. But will you furnish for the committee the added civilian employment in the Department of the Navy in the last 4 years?

Secretary LEHMAN. Yes, sir.

Senator HOLLINGS. Do you have any idea in mind what it is?

Secretary LEHMAN. It is roughly 3,000 to 4,000, Senator.

Senator HOLLINGS. 3,000 to 4,000.

Secretary LEHMAN. Yes.

Admiral COOPER. Senator, the total between fiscal year 1983 and the fiscal year 1986 estimate is about 2,000. However, we took about a 3,000 cut in fiscal year 1985 and this year we are asking for about 1,800 backup. What we are asking for in 1986 is less than we had in total in 1984. If you are referring to the 4-year increase of 87,000 in total DOD employment between fiscal year 1980 and 1984, I can provide Navy data for the record.

[The information follows:]

CIVILIAN EMPLOYMENT

Between FY 1980 and FY 1984 DOD civilian employment increased by 87,000; the Department of the Navy share was 31,000. That growth was directly in support of this Administration's continuing effort to improve our readiness posture.

Nineteen thousand of the Department of the Navy growth was in our industrial activities, reflecting the increased emphasis on depot maintenance improvements for ships, aircraft and ordnance. The other twelve thousand growth was also related to readiness initiatives. Two thousand additional personnel are working in the central supply system, with resulting improvements in responsiveness, accountability, and improved management of spare parts acquisition. Three thousand additional personnel are providing improved base operating support, support for TRIDENT submarines, physical security, and intermediate level maintenance for ships. Another two thousand personnel are supporting the Marine Corps in the areas of base operations, supply responsiveness, and substitution for jobs which were previously filled by military personnel. Finally several thousand additional personnel are now involved in increased contract oversight for expanded and cost effective procurement of ships, aircraft, and weapons systems at Supervisor of Shipbuilding, Naval Procurement Offices, and Management/Support Activities.

By 1984 the Department of the Navy had achieved most of its manpower investments for increased readiness and acquisition of the 600 ship fleet. Thus in the period between FY 1983 and FY 1986, the growth in Department of the Navy civilian manpower levels is only about two thousand out of a DOD total of 43,000 for the same period.

CIVILIAN EMPLOYMENT

Senator HOLLINGS. Do you see what I am doing, what my game is? I am taking this 97,000, and I am asking you. Then I will ask General Kelley to give it to me in the Marine Corps, and I know that they are not overburdened with civilians, I have Parris Island in my backyard. If you go near the place to visit, they will start drilling you. So I know their attitude and approach.

I don't know where the growth is but I will find out. Perhaps that is the second question, Mr. Secretary, and I have been educated somewhat by yourself. Can you give us on this committee the chain of command, let's say, from here to Lebanon during the particular experience we had when the Navy commenced the actual shelling and all of those things that did occur during that event?

I have just come back from NATO, and I visited the naval commands, not just the ones we have in Naples and other places, but in London. I would like to know and have listed those commands, the complements of those commands, the organization going from the Secretary of Defense down to the Marine commander in Beirut. I think as a member of this committee, I need to be educated, tell me the individuals involved in each one of those particular command, as well as when you say, forward, march—I am an old Army man—if you say that, how do you say that, Secretary Lehman, and how does it go. Would you do that for me, please.

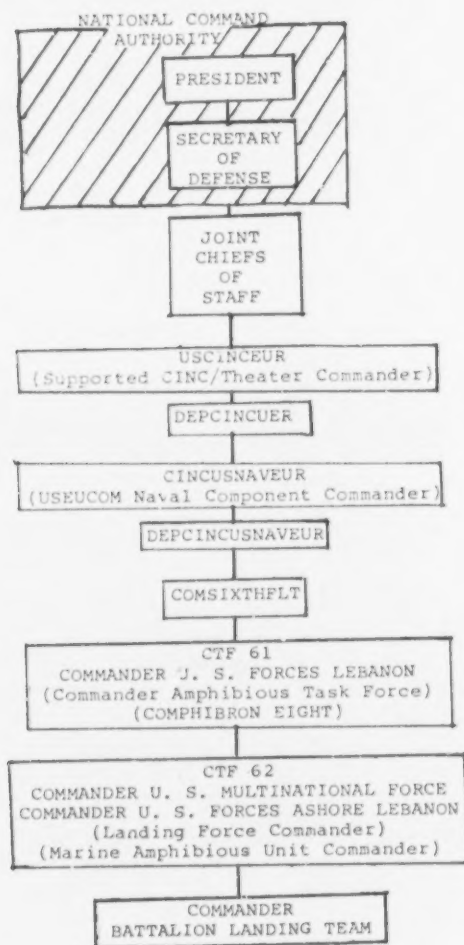
Secretary LEHMAN. I will be happy to provide that for the record, Senator.

[The information follows:]

BEIRUT CHAIN OF COMMAND

The operational chain of command for the U. S. Multinational Force (USMNF) in Lebanon is illustrated in the attached chart. Command authority and responsibility flows from the President to the Secretary of Defense, through the Joint Chiefs of Staff to Commander in Chief, U. S. Forces Europe (USCINCEUR). In the theater, operational command runs from USCINCEUR through the Deputy Commander in Chief, U. S. Forces Europe (in Stuttgart, Germany) to Commander in Chief, U. S. Naval Forces Europe (CINCUSNAVEUR), and from CINCUSNAVEUR through the Deputy Commander in chief, U. S. Naval Forces Europe (in London, England) to Commander, Sixth Fleet (COMSIXTHFLT). Operational Command flows from COMSIXTHFLT to Commander, Amphibious Task Force (CTF 61) who was, at the time, designated Commander, U. S. Forces Lebanon. The Marine Amphibious Unit (MAU) Commander, CTF 62, was Commander, U. S. Forces Ashore, Lebanon; subordinate to him is the Battalion Landing Team (BLT) Commander, who has immediate command of Marine Combat Companies assigned to the Marine Amphibious Unit (MAU). CTF 62 was also Commander, USMNF.

OPERATIONAL CHAIN OF COMMAND



Senator HOLLINGS. I will jump, if I have time, Mr. Chairman, to the D-5. I have always thought that we made a bad mistake some years back. Bluntly, you can put a D-5 missile in a Minuteman silo, but you can't put an MX missile in a Trident submarine. I understand that, it has been talked publicly, we have in the D-5 the same hard target kill, the same accuracy. You would need a booster, I take it, for the range, but generally speaking it has an effective range, and more than anything else it is survivable.

I am looking at spending. Everybody wants their particular planes now. The Air Force wanted their missile, but I happen to think that yours is the better one. I think I can prove that if added seven more Tridents, to come up with 22 instead of 15, I would have far more hard target kill capability with half the cost, and with survivability.

Will the record show that the Secretary is smiling.

[General laughter.]

Secretary LEHMAN. Do not let the record show that the Secretary has smiled at that. I fully support the MX, Senator.

Senator HOLLINGS. You got out of that one quick.

Secretary LEHMAN. It is essential that we modernize the land-based leg of the deterrence.

DEPLOYMENT SCHEDULE FOR D-5

Senator HOLLINGS. I understand the line, and you do well. Will you give me the deployment schedule for the D-5, Mr. Secretary. What is the deployment schedule for the D-5 missile, and the potential of expediting that particular schedule?

Secretary LEHMAN. We speeded up the D-5 as part of the President's strategic initiatives announced in October 1981. The IOC is now 1989 and as a result of that decision, we are on course and under budget to meet that. Essentially, it is not possible to speed that up further because of the developments and testing that are involved. We have speeded it up as fast as it is possible, and 1989 will be the IOC.

Senator STEVENS. Would you yield?

Senator HOLLINGS. Yes, sir.

Senator STEVENS. Senator Chiles has a request here for the record. We have a committee policy set by Senator Stennis that it has to be made by the Senator himself.

Senator CHILES. I would like to submit a few questions for the record.

Senator STEVENS. Thank you very much.

Senator HOLLINGS. Thank you, Mr. Chairman.

Please proceed, Mr. Secretary.

Secretary LEHMAN. We made a decision that in order to gain maximum speed in getting the ships to sea with the D-5, we redid the contract for the ninth Trident, which was by the way, the one that we had refused to give to Electric Boat in 1981.

We had that ship redesigned as the lead ship of the D-5 class. That, by the way, is why there was a big jump in the price of the Trident subs, compared to those authorized before the Reagan administration, and those that have come since. The ninth and fol-

lowing ships will be ready to receive the D-5 missiles and the ninth ship will have the first operational capability in 1989.

Senator HOLLINGS. Would you like to add to that, Admiral?

Admiral WATKINS. Senator Hollings, specifically, we have in the budget the first of the dollar stream that will accelerate the backfit of the D-5. We cannot accelerate the missile ahead of the IOC as the Secretary mentioned, but we can accelerate the fitting out of the ships, and that will be done. So we will have the maximum punch at sea consistent with the arrival of the missile. Then we can put the D-5 to sea at an accelerated pace, if that is desirable as time goes on, consistent with the other national decisions that are made about it. We are ready to do that, and some dollars appear in the 1986 budget to start the long lead process to permit us to do that.

LAND-SEA ENVIRONMENT FOR MISSILES

Senator HOLLINGS. You see, I am playing, Admiral, President. In other words, if I don't get my MX missile, and I want to maintain my deterrence and thereby accelerate the D-5, which I know has got everyone's approval, then I am asking myself what modification—Mr. Secretary you would be good to answer this—to obtain the same range would be necessary?

Secretary LEHMAN. Of course the reason that two missiles were chosen was that the land environment does not require you to do certain things in the construction of the missile that the sea environment does. For instance, you don't want to keep your guidance systems spun up all of the time when you are at sea because you don't have sufficient spare guidance systems for repairs, and so forth. That drives certain costs into one missile that are unnecessary for the other.

At this point in development, if you are going to landbase any missile, MX is clearly the most cost effective way to go. A decision made 5 years ago to single up on one missile might have been very different, indeed. Then you might have designed another stage for the D-5 to get the same range, or you could reduce the number of RV's and get the extended range.

Senator HOLLINGS. But you can redesign another booster, another stage, as you describe it.

Secretary LEHMAN. Yes, but it wouldn't be very cost effective because it is essentially a smaller missile, and you don't get the numbers of RV's that would amortize the cost of keeping that land-based silo for one missile. Whereas, in a submarine, you have them all bunched together, and it is much more cost effective. If you are going to deploy more D-5's, by far the best place to do it is at sea, not on land.

LAND-BASING D-5

Senator HOLLINGS. I understand your disagreement with my mental gymnastics of approaching this problem. But if you had to do it, I could put a D-5 in a Minuteman silo, couldn't I?

Admiral WATKINS. Senator Hollings, one of the things that we need to clarify is that the D-5 missile can reach any target. It is not a range issue.

Senator HOLLINGS. It is not a range issue?

Admiral WATKINS. No, sir; you can reach all targets in the Soviet Union with the D-5.

Senator STEVENS. But it is not from land.

Senator HOLLINGS. That is right.

Admiral WATKINS. Yes; because we don't shoot from land, so we can move the platform as required, and we have 30 million square miles of ocean to operate in. So range is really not an issue, sir.

Senator HOLLINGS. If I had to put them, let's say, in North Dakota, what would I do?

Admiral WATKINS. I understand what you are saying, Senator Hollings, and I really don't have the answer to that question. I don't know what we would have to do to boost it beyond the design range that we have, which is probably 1,000 miles shy with the land basing you mentioned.

Senator HOLLINGS. It is 1,000 miles shy.

That is what I am thinking of. I have been educated by the distinguished leadership there at the table, you take an SS-20 and add a booster to it, and you have SS-16. I guess that technologically, we are as good as the Soviets, we can put a booster on the D-5, make it land based, and go on ahead with the triad, I just have a different missile. I am not worried about the cost effectiveness now, I am worried about security effectiveness at the moment. Please furnish that information.

Mr. Chairman, I will have some other questions, if you don't mind, which I will submit for the record. I do appreciate your courtesy.

R&D ON D-5

Senator STEVENS. How much R&D do you have left on the D-5 in terms of dollars?

Secretary LEHMAN. For 1986 there is \$2.2 billion; for 1987, \$1.7; and for the total FYDP from 1986 to 1990, \$6.2 billion.

Senator HOLLINGS. Please let me ask one more.

SITUATION WITH ELECTRIC BOAT

Mr. Secretary, with respect to General Dynamics, I have been making talks crediting this administration, and particularly your office, for straightening out contracts. I remember that early on, you got in there and got us an alternate source. You got on Electric Boat, and all those contracts that were held up by Admiral Rickover. You have come back and effected a lot of economies.

Just when I am praising you for doing all of that, I am picking up my morning paper, and finding out differently with respect to General Dynamics. How did you miss all of that in your clean up of Electric Boat when you first came into office?

Secretary LEHMAN. Unfortunately, my powers did not extend retroactively to the 10 years prior when those disputes took place, Senator.

Senator HOLLINGS. I am correct that those took place before and not on your watch, as we say.

Secretary LEHMAN. As far as the allegations that have been made so far, they all took place prior to 1981.

Senator HOLLINGS. Prior to 1981?

Secretary LEHMAN. Yes; with the exception of the issues over defensewide overhead and the charges of disputable things in overhead. As you know, audit functions and the setting of overhead are not done by the services. They are done by the Defense Contract Audit Agency.

Senator HOLLINGS. Not by the Department of the Navy.

Secretary LEHMAN. No; the audit function was reformed and consolidated into the Defense Contract Audit Agency, and they do a very good job.

Senator HOLLINGS. You see what I am looking at, the writeoff of personal trips down to Hunting, GA, and everything, that has not occurred, as far as you know, since 1981?

Secretary LEHMAN. I won't say that. All I am saying is that that is a very different issue. That has to do with the allocation of defensewide overhead. The auditing and the questioning of that is done by the Defense Contract Audit Agency. The results are provided by them to the contracting officer within each of the services. We have disputed those claims when they have been given to us by the Defense Contract Audit Agency. It is a different issue than the contracting issue.

Senator HOLLINGS. Thank you, Mr. Chairman.

Senator STEVENS. Thank you.

Senator Specter has a question and I want to get to him.

REDUCTION IN PROCUREMENT REQUEST

General, we have not gone to you at all during this hearing. I want to ask you, and commend you, you are really 6 percent down in your \$1.7 billion procurement request. Yours is unique in the Department of Defense, you are actually requesting less money this year for procurement in the budget.

General KELLEY. That is correct, sir. Last year was an aberration in that we bought out the whole light armored vehicle line, and also our LVT SLEP program. It was a spike in the procurement profile, and this year we are back to a norm.

Senator STEVENS. Are you satisfied—I know that you normally answer on the basis of your command structure anyway. You were cut before you got here. Did this fellow on your right cut your budget at all?

General KELLEY. I would be happy to answer your question. When the Secretary of the Marine Corps, says: "Forward march," 198,300 Marines step out.

Senator STEVENS. We have one good woman involved in that, too, I understand from reading the newspaper.

General KELLEY. They are still Marines, sir.

I can honestly say this, our modernization program, which is unparalleled in the history of the U.S. Marine Corps, is continuing apace thanks to the gentleman on my right.

Senator STEVENS. You have not been cut. You have what you want?

General KELLEY. We have our fair share.

Senator STEVENS. That is what I said, he would answer it right.

Senator Specter.

Senator SPECTER. Thank you, Mr. Chairman.

INSTALLATION CLOSING

Secretary Lehman, I have a question or two, which I appreciate the opportunity to ask you for the record because there are a great many people in Pennsylvania and other places who are concerned about some of the statements which have been made in the course of the last several days with respect to the possible closing of installations.

Senator Goldwater made a speech on the Senate floor the day before yesterday, and Secretary of Defense Weinberger has responded that there is no intention to close any of the installations which Senator Goldwater identified. I want to take this opportunity to confirm that with you with respect to two Navy installations on Senator Goldwater's list, specifically the Philadelphia Naval Yard, and the Navy Laboratory at Westminister, PA.

Secretary LEHMAN. Senator, the Navy would make no recommendation to close any of those installations. What has been done, defensewide, at the insistence of Senator Goldwater, has been to identify what would happen if such a radical move, such as the freeze the Budget Committee voted for, were actually imposed.

Believe me, I would expect that list to grow, not disappear, if such a freeze were to take place. I cannot overstate the violence to our program that would be done by what the Budget Committee has done, if that were ever carried through and signed by the President.

Senator STEVENS. You have just extended this hearing by at least an hour.

Senator HOLLINGS. Yes, I can tell you that.

Senator SPECTER. If you close the Philadelphia Naval Yard, what will happen to all the vital national defense work you have programmed there?

Secretary LEHMAN. It would have to be done elsewhere, in other yards. We would simply have to shrink with any cuts of that magnitude.

Senator SPECTER. What is an alternative yard to be cut if the Philadelphia Navy Yard is going to be left open,

Secretary LEHMAN. I don't know. Maybe Senator Hollings would like to suggest Charleston.

Senator SPECTER. If he wouldn't, I would [General laughter.]

The issue arises here about an identification of specific yards, which is very, very problematic. At this stage of the proceeding, there would legitimately be congressional and senatorial input of any such closing.

WORK OF PHILADELPHIA NAVY YARD

The work of the Philadelphia Navy Yard has been vital for our national defense for decades. No one knows it better than you do, Mr. Secretary. Glenside, PA, your hometown, is a stone's throw, just a long subway ride to the Philadelphia Navy Yard. That yard can compete with any, even those in South Carolina. So what is the point in projecting a hit list in anticipation, which is going to set

off the kind of competition between Penn and South Carolina, and 48 other States in this country?

Secretary LEHMAN. It was not, I would underline, the intention in the President's budget to close any of these yards. Senator Goldwater asked the Secretary of Defense what would be the implications of the kind of cuts that the Budget Committee are talking about. The list that the analysts in years past have put together was updated in the Defense Department, and that was the list that came out.

Again, this is not a list of cuts that the President or the Secretary of Defense are recommending. It was not the Secretary of Defense's idea to provide such a list. It was demanded by the Senate Armed Services Committee chairman.

Senator STEVENS. Senator, I am going to have to say that we are sorry. We have to be back here at 2 o'clock for another hearing, so we are going to have to get the reporter, the staff, and other people to their offices.

Senator SPECTER. Let me ask one or two more questions, if I may, Mr. Chairman.

Senator STEVENS. Let's just say that we are going to leave here in 5 minutes. I am serious, these people have to go back to their offices, and get back here by 2 o'clock.

Senator SPECTER. I will ask two questions at once.

Question No. 1, would you have comparable savings to eliminating the Philadelphia Navy Yard if you closed either Norfolk or Charleston, This is question No. 1, and I don't have time for extended discussion on this point.

Secretary LEHMAN. I will provide that for the record.

[The information follows:]

A cost savings comparison between Philadelphia Naval Shipyard (PHSY) and Norfolk Naval Shipyard (NNSY) or Charleston Naval Shipyard (CNSY) has not been done and would be misleading and not representative of the respective functions of these naval shipyards. PNSY is not capable of accomplishing work on nuclear powered ships or submarines. The Navy has defined specific strategic and operational capabilities to be maintained in the naval shipyards. NNSY and CNSY fulfill part of our strategic and operational requirement of having three naval shipyards on each coast capable of overhauling nuclear submarines (Portsmouth Naval Shipyard is the third).

REDUCTION IN PERSONNEL AT PHILADELPHIA YARD

Senator SPECTER. Question No. 2, as I understand it, notwithstanding a letter which was circulated last week which contained a strawman list, or so-called targeting, looking at 8,700 employees in the Philadelphia Navy Yard, which would be 2,714 down from the strength of 11,417, there are no present plans by the Department of the Navy to implement that kind of a reduction, but rather it calls for a response from Commodore Singer and an analysis. As of this moment, there is not plan to reduce the navy yard at all; correct?

Secretary LEHMAN. No, that is not accurate, Senator. In January, I directed that Naval Sea Systems Command reduce employment in the naval shipyards to 73,000. This has been further refined to be extended to the end of the calendar year.

The yards are now working with NAVSEA to allocate how those cuts will be taken. But, in fact, we think that normal attrition and some early retirements, plus a freeze on new hires should take care

of the bulk of that. We are reducing from 78,000 to 73,000 by the end of this calendar year.

Senator SPECTER. Your Under Secretary told me on Friday that there were no plans for any specific reduction of any specific number in the Philadelphia Navy Yard.

Secretary LEHMAN. There are no approved plans. They are working on it in NAVSEA now.

Senator SPECTER. But you think that it could be handled by attrition generally?

Secretary LEHMAN. I think that that is going to handle most of it. Normal attrition and a freeze on new hires should take care of most of it, but perhaps not all of it.

Senator SPECTER. Thank you, Mr. Chairman. I will pursue this with you further off the record.

Senator STEVENS. Senator, I might hasten to add to you that that is going to come through the Armed Services Committee. The budget impact goes to the Armed Services Committee first, not this committee. They will have to accommodate that in their bill long before we get to it. By the time we get to it, those bases could well be closed.

Senator HOLLINGS. Just for the record, Mr. Secretary, that applies to the Charleston Yard, too. My question or reference earlier was not with respect to the Budget Committee action. Last week, prior to the budget action, this notification was going out, and it was confused. What is the fact?

Secretary LEHMAN. The fact is, that we are going to reduce, by the end of this calendar year, all naval shipyards to a ceiling of 73,000 civilian employees. We are working with the shipyard commanders now to see—

Senator HOLLINGS. That is from 78,000 to 73,000?

Secretary LEHMAN. It is from 78,000 to 73,000 by the end of the calendar year.

Senator HOLLINGS. It is 5,000 and that will be taken care of by attrition.

Secretary LEHMAN. The bulk of it will be by attrition and a freeze that we have already implemented on new hires. That should take care of the bulk of the reduction.

Senator STEVENS. I want to make sure that the record is clear here. We had a discussion earlier this morning about the fact that you are going to be able to try and eliminate some of the pressure on your overhaul, so that really we are not talking about major ships and policy as far as this is concerned. In your budget this year, you are really requesting fewer overhauls this year.

Secretary LEHMAN. Twenty fewer this year.

Senator STEVENS. The impact of it is a routine adjustment, and it is entirely separate from the consideration that the Senator from Pennsylvania is raising.

Secretary LEHMAN. It is entirely different from the base closure issue. It is a change in the way we run our shipyards to make them more efficient, and to optimize them for low cost instead of fast schedules.

Senator STEVENS. It is not related to the base closure, nor is it related to this \$19-plus billion that the Budget Committee is recommending.

Secretary LEHMAN. Even if we were to close a naval shipyard, we would still have to maintain a level of about 73,000 to do the work.

Senator HOLLINGS. The impact on the Charleston Yard exactly, do you have that?

Secretary LEHMAN. That is not decided yet, Senator.

Senator HOLLINGS. When it is decided, will you furnish it for us please?

Secretary LEHMAN. Yes, sir.

Senator STEVENS. Thank you very much, gentlemen. I am sorry, but we have to get these people out of here so that they can get back by 2 o'clock. We have an MX hearing at 2 o'clock.

Senator HOLLINGS. Can I just have a couple of questions here to clarify one particular point?

Senator STEVENS. Go ahead.

Senator HOLLINGS. Specifically, rather than cuts, suppose I added \$10 billion to this year's defense budget.

Secretary LEHMAN. we could put it to very good use.

Senator HOLLINGS. All right, that is exactly what the Budget Committee voted, they gave you an inflationary increase budget authority of \$11.1, I have caught you off-base in that answer, and \$21.5 billion in outlays. So we haven't cut, and you don't have to close anything, and go around with the terroristic activities.

SUBMITTED QUESTIONS

Senator STEVENS. Additional questions by members will be inserted in the record at this point.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

CARRIER BATTLE GROUPS

QUESTION: The Congressional Budget Office has proposed placing three carrier battle groups in the Navy Reserve. In a tight budget why isn't this proposal worth considering?

Since the Navy only deploys 4 or 5 carrier groups overseas, isn't 12 active carrier groups and 3 reserve a viable and cost effective alternative?

The Navy is planning to use one Reserve air wing to meet the needs of the 15th carrier. Wouldn't it be less expensive to turn over the 15th battle group to the reserves?

ANSWER: A 600-ship Navy based on 15 active carrier battle groups is the minimum force level necessary to carry out our peacetime commitments, maintain a strong deterrent posture and, if necessary, carry out our warfighting tasks with prudent risk, because of the emergence of a global, blue-water Soviet maritime threat. The number of carrier battle groups necessary to avoid turning any of our vital maritime areas over to Soviet control is calculated on a number of factors: the advantages of geography that exist, the substantial contributions that US Air Force and allied navy and marine forces can add, and the 4 dimensional capability that only US battle groups can provide.

The 15 CVBGs required to fulfill our commitments must all be active and fully deployable in peacetime. This will allow us to maintain the proper material condition of our carriers by having one CV in the Service Life Extension Program (SLEP) and 2 CVs in overhaul at any one time, while supporting a turnaround cycle of 2.0 for peacetime deployments (12 months operating out of homeport for every 6 months forward deployed).

The CV force level mix proposed by the Congressional Budget Office would leave critical holes. The following illustrative carrier employment option demonstrates that at least 15 active, ready CVBGs are necessary to meet a minimum level of capability to support strategic force employment [deleted].

<u>AREA</u>	<u>BATTLE GROUPS</u>
Indian Ocean	(deleted)
Mediterranean	(deleted)
North Atlantic/Norwegian Sea	(deleted)
Pacific	(deleted)
Overhaul/SLEP	2
	15

This minimum force level has been derived from the recommendations of the fleet commanders-in-chief and validated through campaign analysis, war gaming, and numerous studies. The minimum force level of 15 carrier battle groups is viable within the constraints of "prudent risk" and affordability. The threat is real. We must have the capability to counter it.

E-6A

QUESTION: A total of \$355 million is requested for the two first E-6A aircraft and advance procurement funding for future buys. This is the beginning of a \$3 billion program

to replace the C-130H which serve as communications relays to our strategic submarine fleet. Admiral Watkins, many of the operational C-130H aircraft are less than 10 years old. Why do you think we should replace these aircraft?

ANSWER: The EC-130G/Q model aircraft is the airborne platform used by the Navy to provide National Command Authority to strategic force connectivity. Of the 17 aircraft currently used to perform the TACAMO mission, eight are less than ten years old, while nine are over 17 years old. As indicated in the 1982 Report to Congress on TACAMO Alternatives, the 30-year life cycle costs of upgrading the current EC-130's and increasing the inventory to perform the Atlantic and Pacific mission was slightly greater than the 30-year life cycle cost of 15 E-6A aircraft. This, combined with the added flexibility of a high speed and longer range aircraft to meet potential changes in mission requirements or threat, favors the E-6A as the preferred approach within existing budget constraints.

QUESTION: Secretary Lehman, weren't you considering an alternative to modify the C-130H aircraft instead of embarking on a new program? Why did you elect to go forward with the E-6A?

ANSWER: The OSD-Navy study demonstrates both airplanes meet the requirement, with the E-6A providing certain advantages. I support the President's budget and its request for the E-6A.

ATTACK SUBMARINE

The Navy wants to continue its four attack submarine yearly construction rate. Between 1986 and 1990 the Navy plans to retire 11 older nuclear powered submarines. By refitting just five of these ships and leveling the new attack submarine construction rate to 3 per year, CBO estimates a savings of \$3.9 billion over the five year span.

Question: Why isn't this an acceptable alternative to the Navy procurement plan?

Answer: The attack submarine building program in the President's FY 1986 budget provides the improvements in warfighting capability absolutely essential to counter the Soviet threat. Each new attack submarine represents vital force enrichment not attainable by extending the service life of older ships.

Our newest attack submarines will be the ones which will be forward deployed in the most strenuous war plan assignments. Each one is a needed asset. Our older attack submarines will not be sufficiently capable of executing all aspects of the maritime strategy beyond the 1990's.

Ships scheduled for deactivation during the current five year defense plan include diesel submarines and older nuclear submarines. Service life extension of any of these would be unsound from the standpoint of military capability and fiscal prudence. Overhaul maintenance to achieve minimum performance and operational safety standards would be an unacceptable burden on our shipyard capability. Key equipment components are either expensive to obtain or no longer available.

The Soviets clearly intend to continue their rapid introduction of technology into attack submarines by introduction of highly capable, new design submarines. Maintenance of our

undersea superiority requires the force enrichment possible only by new attack submarines built with our latest technology.

Question: If SALT constraints force the retirement of Poseidon ballistic missile submarines, couldn't these ships be converted to attack submarines similar to the Polaris conversion? If so, how would this initiative contribute to the Navy's objective of a 100 attack submarine force?

Answer: Conversion of Poseidon ballistic missile submarines to capable attack submarines is not feasible. These are old submarines, ranging in age from 18 to 22 years. These ships have limited combat capability which cannot be upgraded sufficiently to give them a role in the U.S. maritime strategy. Our current attack submarine program is a balanced approach of new construction and fleet improvement which will provide the warfighting capability necessary to counter the threat. Diversion of resources for attempted upgrading of our older ships would seriously impact the modernization of the attack submarine force and the maintenance of a capable 100 SSN force.

NEW DESIGN SUBMARINE

At the same time the SSN-688 is producing at 4 per year, the R&D budget includes \$369 million for the new design attack submarine, planned for construction in 1989 at an estimated cost of \$1 billion per copy.

Question: Will the new submarine be more capable than the SSN-688 commensurate with the increased cost?

Answer: The SSN-21 effectiveness across the range of expected wartime missions is about three times that of the Improved SSN-688. SSN-21's large effectiveness advantage over the Improved SSN-688 is the result of improvements in quieting, firepower, combat systems and propulsion.

Quieting improvements permit SSN-21 to operate at high speeds and still be less detectable than today's SSN-688 at slow patrol speeds. This permits SSN-21 to attain a tactical speed, which is the maximum speed at which it can detect and classify a threat SSN prior to counterdetection, at least 40% greater than the Improved SSN-688. With this high tactical speed SSN-21 can transit covertly at high speeds, spending more time on station while on patrol than the Improved SSN-688. Once on station, SSN-21 is about 50% more productive than the Improved SSN-688 because of the higher tactical speed and greater search rates. Further, SSN-21 carries about 33% more weapons than the Improved SSN-688, directly increasing its combat sustainability over the Improved SSN-688.

The return in increased combat capability gained with the SSN-21 makes it a very cost effective weapons system. The procurement cost established for SSN-21 will permit us to maintain the 100 SSN force which is sufficient to execute the U. S. maritime strategy with about the same share of the shipbuilding (SCN) funds as the attack submarine force has historically enjoyed.

Question: Is the contract design portion of the new design submarine fully budgeted to support a dual contractor approach?

Answer: During the December 1984 Navy program review of SSN-21, the Secretary of the Navy approved the acquisition strategy of dual contract design to maintain the maximum competition in the SSN-21 design. Previous to this decision, only one contract

design award had been budgeted with \$11 million in FY 1985 and \$20 million in FY 1986. The added cost of dual contract design is \$40 million in FY 1986.

By maintaining the maximum competition possible, the Navy will realize significant cost reduction in the remaining design process and lead ship construction. The Navy is committed to the competitive dual contract design approach to the SSN-21 class. Sources of funding for the added \$40 million in FY 1986 are being identified by the Navy.

Question: Is it possible to achieve the same capability by upgrading the SSN-688 class?

Answer: The SSN-688 class nuclear attack submarine was initially designed and built in the early 1970's. Since its initial introduction into the fleet in 1976, a significant improvement program has been ongoing. The first of the Improved SSN-688 class were authorized in FY 1985 and will enter the fleet in 1990. These ships represent a doubling of the warfigthing capability in the original design.

The improvements to the SSN-688 include a vertical launch system for increased firepower, an improved electronic warfare capability, the advanced submarine combat system, propulsion quieting, and arctic modifications. These improvements are substantial, but they use up the available design margins in the ship. There is no remaining space and weight within the hull envelope in which to make further improvements.

In order to counter the rapidly advancing Soviet threat, a new design SSN is required. The SSN-21 will use the most advanced technology in all areas of submarine design including quieting, sensors, firepower, speed and depth. The SSN-21 represents a step improvement in submarine warfigthing capability which will ensure our attack submarine supremacy at sea.

BIGEYE CHEMICAL WEAPONS

QUESTION: Mr. Secretary, the Navy is again requesting \$22 million in production funding for the BIGEYE Chemical Bomb. The case for offensive chemical weapons is generally made for Army or ground force applications. How is your requirement distributed between Navy, Marine Corps and other service support requirements?

ANSWER: BIGEYE is designed to be compatible with all Navy and Marine Corps attack aircraft as well as most Air Force attack and bomber aircraft. The Navy request for \$21.5 million in production funding for the BIGEYE Binary Chemical Bomb supports the requirements for Navy and Marine Corps aircraft. Air Force is seeking to procure its own inventory of these vitally needed retaliatory weapons. The actual distribution of BIGEYE Binary Chemical Bombs between Naval and Marine attack squadrons would be a function of the tactical situation.

QUESTION: What indications are there that the Soviets are capable of using offensive chemical weapons at sea?

ANSWER: Soviet doctrinal writings and military exercises indicate that the Soviets are prepared to employ chemical warfare agents and munitions against a broad range of naval targets in conjunction with their use of chemicals in the land theater. Their ship design, high state of chemical warfare readiness and doctrinal treatment indicate that they expect chemical weapons to be used

during naval operations. We believe that chemical projectiles and warheads are stored at dedicated shore depots near naval bases. We have located Navy chemical service depots or units in each of the Soviet fleet areas. Our estimates of Soviet Navy chemical weapons capabilities have been derived largely from known Soviet Army and Air Force capabilities, as Soviet Naval weapons systems are usually analogous to land based systems.

QUESTION: How well are you prepared to operate in a chemical environment at sea?

ANSWER: (D), we are pursuing an active program to enhance the fleet's chemical defenses. We are seeking improved protective equipment, new antidotes, medications, and warning or detection devices and are procuring equipment now available off the shelf in order to rapidly improve our current defense posture. While an effective defensive posture is vital to survive and function in a contaminated environment, it will not deter the use of CW against us. [Deleted].

[Deleted]. With increasing Soviet capabilities in delivery of precision guided munitions and the proliferation of offensive chemical warfare capabilities in the third world, the chemical warfare threat continues to increase for all Navy forces. [Deleted].

The Navy firmly supports the chemical warfare modernization program and is working to provide both the defensive and the retaliatory capabilities which are needed to deter hostile first use of chemical weapons.

QUESTION: In light of the limitation of deployment of chemical weapons to NATO, does the Navy plan to keep BIGEYE deployed in the fleet during peacetime?

ANSWER: As you know, BIGEYE is being developed by the Navy as a shipboard safe weapon. Given the nature of these weapons, deployment and any visibility given to such deployment are questions of policy. Should a decision be made that national security interests required the deployment of BIGEYE in ships, Navy would have no reservations about such deployment.

QUESTION: If you were to carry BIGEYE aboard ship during peacetime, would you expect fleet porting problems similar to those involving nuclear concerns?

ANSWER: No, we would not expect any such concerns. The two separate components of BIGEYE are safe when unmixed. One of the components is the common element sulfur. The other component is a liquid called QL which has about the same toxicity as aspirin. These components would remain in separate weapons magazines during peacetime. There would be no chemical agents aboard the ship and none would be formed in any accident that might occur.

QUESTION: How much special crew qualification is needed for employment of the BIGEYE?

ANSWER: Very little special crew qualification is needed for the employment of BIGEYE. BIGEYE uses the same handling equipment and procedures as other 500 pound bombs already in the fleet. In the Navy Training Plan prepared for the introduction of BIGEYE into the fleet, we have added about eight hours of instruction to the training courses for weapons handling personnel and four hours to those for flight crew personnel.

TRIDENT II MISSILE

QUESTION: Mr. Secretary, you have been successful in demanding firm fixed price procurement contracts. Why shouldn't the Navy procure all TRIDENT II missiles, which are considered a low risk evolution from TRIDENT I, on a fixed price rather than use any cost plus contracts?

ANSWER: The five billion dollar missile development program, which supports the concurrent construction of the first TRIDENT II capable submarine as well as the development and construction of an entirely new missile assembly facility at Kings Bay, Georgia, is not a low risk program. We assess the program as moderate risk.

In our risk assessment we determined that use of a firm fixed price contract was inappropriate for the development and early production of the D-5 missile system and not in the best interest of the government.

We will introduce fixed price type contracts into the D-5 program as soon as the rigor of a fixed price contract can contribute to the program success. Schedule and performance have been given priority in this essential national strategic program.

QUESTION: How much could be saved with fixed price contracting?

ANSWER: We plan to apply fixed price contracting as soon as it is appropriate, but savings are impossible to estimate now.

QUESTION: This strategic missile program has 2 to 3 times as many non-operational missiles as the MX or Pershing II program. Why?

ANSWER: The TRIDENT II (D-5) strategic missile program requires (d) missiles to support the eventual deployment of seventeen OHIO class TRIDENT submarines. These missiles are required for sixteen shipfills (assumes one ship in non-deployed status), Demonstration and Shakedown Operations (DASO) (missile firings after industrial period to train and certify crews), Operational Tests/Follow-on Operational Tests (OT/FOT) (missile firings each fiscal year from deployed submarines to determine JCS planning factors), and logistics support for the Fleet Return Evaluation Program (FREP) (a non-destructive evaluation of previously deployed missiles). Breakdown is as follows:

Shipfill missiles 384 (16 SSBNs x 24 missiles each)

DASO missiles (D) (allows two firings for 1st four SSBNs, and one per SSBN thereafter for balance of construction and overhauls for the life of the hulls)

OT/FOT missiles (D) (provides sufficient assets - in conjunction with DASO flight test data - to evaluate system performance and detection of potential problems for the life of the program. An annual rate of (d) firings per fiscal year provides for the testing of [deleted] TRIDENT hulls in each fleet per FY,

thus insuring a valid representative sample for annual evaluation)

FREP missiles

- (D) (includes off-loaded missiles at SWFPAC and SWFLANT [Strategic Weapons Facilities Pacific & Atlantic] undergoing non-firing test and evaluation)

(D)

FIXED PRICE CONTRACTS

The subcommittee has supported the Navy effort to use firm fixed price contracts with not to exceed clauses on its aircraft programs. However, we have recently learned that the Navy has negotiated special contract clauses with Grumman committing it to continue minimum production of certain aircraft types.

QUESTION: Can you explain why you have adopted this approach?

ANSWER: The clauses in question are in the A-6 Upgrade and the F-14D contracts with Grumman and do not commit the Navy to continued production of certain aircraft. These clauses link the price of the A-6 upgrade contract to the A-6 fiscal year production contract and the F-14D contract to the F-14 fiscal year production contract in order to reduce these contract prices by sharing the cost of common program management and sustaining engineering efforts. Further, the clauses contain a provision which permits an equitable adjustment in the contract price if the concurrent aircraft production program is terminated. These clauses do take advantage of the existence of the concurrent aircraft production contract to reduce the contract price, but also have an administrative procedure to operate in the absence of the production contract.

These contract clauses represent a departure from normal Government contract procedures which require the pricing of contracts to be independent of one another. In this case, however, a deviation from the Federal Acquisition Regulation was obtained because the linkage of the pricing of the two contracts resulted in a more favorable price to the Government.

AVIATION OFFICER CONTINUATION PAY (ACCP)

QUESTION: Without prior Congressional notification, through a below threshold reprogramming you recently implemented lump sum bonuses of up to \$36,000 for certain Navy pilots — the largest ever offered by the military.

Do you intend to continue lump sum bonuses in fiscal year 1986, and do you have any plans to pay such up-front bonuses to naval flight officers as well?

ANSWER: To set the record straight, key members of the Congress were informed, in advance, of Navy's intention to implement a lump sum payment plan for certain Navy pilots. A decision on the application of lump sum ACCP in FY-86 has not yet been reached. We will analyze the results of the FY-85 program and assess the continued pilot loss prior to making that determination. If lump sum application is deemed necessary, the rationale for this request, with associated funding support, will

be discussed with the Congress. Payment of a lump sum bonus to NFOs is not being actively considered at this time, however, should NFO losses reach the magnitude of pilot losses in those critically manned aviation communities that are targeted to receive the bonus, this issue will be addressed.

QUESTION: While Navy pilot retention dropped slightly in fiscal year 1984, flight officer retention continues at over 80 percent.

Why are you still paying AACP bonuses to these officers?

ANSWER: AACP, one of the most cost effective programs ever, is being applied only to officers in those sea-based communities where shortages exist or are projected to exist.

Since the introduction of AACP in 1981, the retention of experienced aviators has resulted in a continually declining aircraft mishap rate. 1984 was the fourth straight, record safe year. The resultant reduction in flight crew related mishaps has saved the government approximately 126 aircraft and \$685 million in replacement costs.

In spite of a higher retention figure for NFO's (a figure that is declining), there are still major shortages in every community where bonuses are being applied and in several communities the shortages exceed those of the pilots. The cost associated with training a single replacement NFO's is approximately \$650 thousand. In FY-85, there are only 231 NFO's newly eligible for the bonus. If only 21 remained in the Navy as a result of the bonus, the entire cost of the AACP new payment budget for NFO's would be regained.

The cost savings don't even begin to address the real value that experienced aviators represent to the security of the nation. The Israeli Air Force, for example, is often singled out for the proven excellence of its air crews; that excellence is founded in one thing, experience.

The bonus has worked and worked extremely well. The payback to the government is a real and measurable ratio of nearly 10 to 1 in cost savings in replacement aircraft and training costs. We can't afford not to continue it.

QUESTION: AACP was intended as a short-term bonus program to address serious pilot and flight officer shortages in critical aviation skills. Now the Navy is requesting continuation of a more generous program through fiscal year 1988.

Why do you request a long-term commitment to AACP when Aviation Career Incentive Pay is meeting the needs of the other services?

ANSWER: The demands placed on the naval aviators are totally different from those on aviators in other services. It is not uncommon for a young aviator to be separated from his family for up to nine months of the year. Additionally, with the mobility of naval forces and commitments around the globe for naval presence, our battle groups often spend up to four months at sea without even seeing land. The operating tempo of the Navy today is higher than it was during the Vietnam war. These are, and will continue to be the realities of the naval service. It was for this reason that the Navy recognized the need for the aviation bonus in 1981, rather than to simply rely on the ACIP increases authorized at that time. Aviation Career Incentive Pay (ACIP) alone is not enough to retain our highly trained and talented naval aviators when one considers the demands that are placed on them and the sacrifices that both

they and their families must endure in the naval service. Continuation of the bonus is requested through FY-88 to provide the program a needed degree of stability in its management and application. The modest increase in the bonus level from \$6,000 to \$8,000 per year for the six year contract is designed to restore the value of the bonus to earlier levels and increase the incentive to assume a longer term obligation to the Navy. The bonus will continue to be applied only where shortages of naval aviators exist or are projected to exist. The proposed revision to the legislation provides for Congressional notification of the Navy's intent regarding future payments. Congressional support of this program has been the cornerstone of the dramatic improvements in aviation retention, improved readiness and reduced aircraft mishap rates. AACP must be continued if we are to avoid these same problems in the future.

MEDICAL READINESS

Question. Last year the Committee received testimony that 75 percent of those wounded in the first days of battle could not be treated with our current medical capability. Considering this, how can you justify only requesting \$48 million for medical readiness, but nearly \$2 billion for peacetime care?

Answer. The \$48 million relates exclusively to funding for procurement and prepositioning of deployable medical systems. The Navy's system of fixed medical treatment facilities is the cornerstone of our medical readiness. Overseas hospitals expand to support the theater of operations in wartime. The hospital system in the Continental United States serves as the primary source of trained medical personnel for immediate deployment in wartime and as the most highly capable element in the continuum of combat casualty care.

Operation of that hospital system in peacetime provides for skill maintenance for medical personnel and secondarily provides a valued health care benefit for our people.

MORALE, WELFARE AND RECREATION

QUESTION: In 1986 the Navy will spend about \$300 million for appropriated support of Morale, Welfare and Recreation activities. Considering the budget crunch as well as the improved pay, benefits and quality of life provided to military personnel since 1980, why isn't this an area which could be reduced or made self-supporting?

ANSWER: The focus of Navy morale, welfare and recreation (MWR) programs today is on recreation and physical fitness programs which offer a constructive alternative to boredom, stress, and the temptation of alcohol and drug abuse; an increasingly popular outlet for sailors to improve physical fitness and physical readiness; and a focal point around which to strengthen family ties which in turn helps build sailor "peace of mind."

Congressional appropriations supplement patron charges to support these needs - it's how the government executes its responsibility to help provide an improved living environment for sailors and their families in partnership with Navy personnel i.e., to share the support responsibility with sailors.

In FY-86, the Navy is requesting \$300 million in appropriated support to supplement approximately \$800 million in nonappropriated (sailor/contributed) support provided through patron fees, charges

and retail sales. To this extent, Navy MWR programs are already largely self-sufficient.

Reducing or eliminating the supplemental support from appropriations will place an even heavier burden on sailors than what exists now. It will mean that patron charges and prices will have to rise. Operating hours will have to be cut, and some facility deficiencies will go unfunded.

Without continued Congressional support, for example, we'd have to nickel and dime the sailor for participation in non-resale type activities e.g., fitness activities.

Because these programs mean so much more in our fight against today's particular personnel readiness challenges such as that provided by alcohol and drug abuse, we solicit continued Congressional funding support for the upgrading of Navy MWR programs and facilities both afloat and ashore. Our priorities will continue to be placed first on overseas and remote locations and on board ships.

RENT PLUS

QUESTION: I have asked the General Accounting Office to prepare a report on housing allowance options for Alaska and Hawaii, to include recommendations on the advisability of developing a single housing allowance program nationwide. In the meantime, the Department of Defense Inspector General has released a report citing inadequacies in management of the Rent Plus program in Alaska and Hawaii.

Are you familiar with this DOD report? Can you tell us how the Navy and Marine Corps are planning to eliminate deficiencies and control costs in the Rent Plus program in Alaska and Hawaii?

ANSWER: Yes, I am familiar with the report. Recommendations made in the DOD IG report impacting upon Navy management of the rent plus program in Alaska and Hawaii fell in the areas of administration of the rent plus program and assignment and utilization of Government housing.

The Navy has complied with recommendations concerning administration of the rent plus program by establishing requirements for tighter internal controls and more complete supporting documentation at the local command level. A change to the Navy Pay and Personnel Procedures Manual issued on 24 December 1984 revised procedures to ensure supporting documentation is complete and accurate. A Military Pay Advisory to inform disbursing offices of the requirement to review and recertify rent plus data is being prepared. Periodic verification of rental contract data by random sample will maintain adequate controls. Rental data will also be verified if there is any cause for suspicion.

DOD IG report indicated that family housing was not being occupied by the grades for whom it was designated, unaccompanied personnel were being authorized rent plus when housing was available, too many housing units were reserved for transients, and quarters were declared substandard unnecessarily increasing the payment of rent plus allowances.

Navy supports the policy of assigning personnel to family housing units of the appropriate grades for which they were programmed or constructed. However, strict adherence would lower utilization of housing by precluding assignment of junior personnel. Assignment policies have allowed a 98% occupancy rate in Hawaii. In Adak, all personnel are assigned to Government quarters.

Actions have been taken to ensure maximum utilization of quarters for unaccompanied personnel. In September 1984 Commander Naval Base, Pearl Harbor assumed area coordination over bachelor quarters in the Pearl Harbor complex. Navy policy directs that berthing plans be reviewed quarterly to ensure full utilization. As of August 1984, Submarine Base, Pearl Harbor shifted to berthing all unaccompanied personnel on station. Only those who qualify in accordance with the Joint Travel Regulations are now permitted to draw rent plus. As of 1 March 1985, utilization of Submarine Base, Pearl Harbor bachelor quarters is in excess of 95%. Recommendations of the DOD IG to reclassify certain buildings as adequate for unaccompanied housing and to reclassify excess transient housing units as permanent party housing have also been implemented.

Question: I have asked the General Accounting Office to prepare a report on housing allowance options for Alaska and Hawaii, to include recommendations on the advisability of developing a single housing allowance program nationwide. In the meantime, the Department of Defense Inspector General has released a report citing inadequacies in management of the rent-plus program in Alaska and Hawaii.

Are you familiar with this DOD report? Can you tell us how the Navy and Marine Corps are planning to eliminate deficiencies and control costs in the rent-plus program in Alaska and Hawaii?

General Kelley: Yes, I am familiar with the report. Recommendations made in the DOD IG report on USMC management of the program in Hawaii focus only on the areas of documentation and assignment/utilization of Government housing. Of a total population of 10,835 Marines in Hawaii, 2,175 or 20% are receiving rent-plus. Of the 2,175 on rent-plus, 727 or 33% are unaccompanied personnel, and 227 are receiving rent-plus to purchase a residence.

To eliminate deficiencies and control costs, the Marine Corps has placed and will continue to place emphasis on accurate completion of rent-plus supporting documentation.

Additionally, we have implemented a program to house unaccompanied personnel from our sister services in Camp Smith housing; however, we cannot validate the alleged savings in this action of \$187,000 mentioned in the DOD IG report at this time.

MILITARY COMPENSATION

QUESTION: While reports by the Grace Commission and the DOD Fifth Quadrennial Review of Military Compensation both proposed wide-reaching modification of the military retirement system, the Congress has yet to see any reforms proposed by the Department. Don't you think there is room for improvement without undermining that basic military retirement benefit concept?

ANSWER: Any recommendations for change to the military retirement system must ultimately be measured by expected gain over the current system. The retirement system is designed, not as a pension plan, but as an essential manpower management and readiness tool. It plays a key role in attracting and retaining qualified personnel to maintain force levels. It also provides for a youthful and vigorous force. The retirement system must adequately compensate for the arduous life that military service demands and assist those who are necessarily forced to make a career change in mid-life when family economic needs are at a peak. Finally, it

should provide security for the retired member during old age. The system has proven remarkably effective in accomplishing all of its objectives. Any proposal for change to the system must consider the potential impact on the morale and structure of the force. If the career incentive provided by the retirement system is diminished, high-quality, highly trained and skilled people will leave the services in increasingly large numbers to obtain long-term employment security elsewhere. The overall cost to restore readiness may be far greater than any potential savings. Erosion of compensation benefits in the 1970s, driven by short-term fiscal requirements, resulted in an inability to attract and retain high-quality people, creating severe, long-lasting readiness problems. The Navy is only now beginning to cut through that bow wave in the system. Periodic examination of the military retirement system is necessary to ensure that it continues to meet its objectives. The current system is effectively achieving its objectives. Changes to the system must ensure that the welfare and morale of individual service members are carefully maintained to preserve a ready force to protect the security of the nation. Any change perceived as detrimental to that objective cannot be supported. Under any circumstances, if changes are contemplated by the Congress, I would urge the members to demand a total compensation package adjustment so that retirement benefits alone are not isolated from all other elements of the compensation equation. Otherwise an undesirably imbalanced, unworkable management system will result and the career force will deteriorate.

MILITARY COMPENSATION

QUESTION: Congress may be reluctant to approve any military pay raise in the current budget-cutting climate. How will this affect Navy and Marine Corps programs, in your judgement?

ANSWER: Computer projections based on a four percent pay raise effective 1 January 1985, no further raises until 1 October 1986 (FY-87 pay raise), and pay raises from FY-87 to FY-91 equivalent to projected civilian wage growth showed the following losses in careerists by FY-91 above projected losses to Five Year Defense Plan end strength levels:

<u>Length of Service Cell</u>	<u>Losses</u>
5-10	-12,723
10-20	- 8,811
20-30	- 2,400
Total (5-30)	-23,934

With both retention and recruiting trends declining, military compensation is becoming a much higher priority item. When compared to the civilian community, the military compensation package has fastly eroded since 1981. Three successive pay caps have placed military wage growth, as measured by the Employment Cost Index, 12.9 percent behind. All special and incentive pays and bonuses have eroded in value. While dependents may obtain space available dental care after 1 July 1985, there is no comprehensive dental plan in existence for dependents. Military couples are not authorized trips to CONUS between accompanied overseas tours as are Government civilians. During PCS moves, the military are not reimbursed for many expenses that Government

civilians are, including: real estate expenses, paid house hunting trips, per diem for dependents, temporary lodging expenses, and higher household goods weight limitations. Studies have shown that the military are reimbursed as little as 25 percent for a PCS move. The Red Cross and the service aid societies in 1984 provided \$22.7 million in aid to primarily E-3 through E-5 personnel for PCS moves. The Navy Relief Society alone has experienced an increase of 225 percent in aid for PCS expenses since 1981. With the current attacks on the retired/retainer pay system and tax proposals which threaten military disposable income, the real and perceived benefit erosions seen by our personnel will undoubtedly have a large negative impact on recruiting and retention in the near future.

Question: Congress may be reluctant to approve any military pay raise in the current budget-cutting climate. How will this affect Navy and Marine Corps programs, in your judgement?

General Kelley: In light of fiscal constraints, Defense has already agreed to freeze military pay in fiscal year 1986. The late fiscal year 1985 three percent raise was added to soften the impact of that decision by retarding a further rift in pay comparability. In light of our continued success in recruiting and retaining a quality Marine Corps, I would be hard pressed to argue any immediate effect of an isolated pay freeze, although we cannot afford the costs of losses in manpower or readiness of aggregate shortfalls. We know from past experience that pay freezes have an adverse impact, especially during periods where the overall economy is improving, with perceptions of the return to the debilitating double spiral of military pay and benefit erosion that existed in the late 1970's. Our current recruiting and retention success is largely a result of your efforts in achieving pay comparability with the private sector. Pay freezes erode comparability and affect our ability to compete with the private sector. We simply cannot afford a massive loss of the career military force.

PHOENIX

QUESTION: Mr Secretary, the Navy proposes spending at least \$500M to establish a second source of production for the Phoenix missile. Navy analysis shows that at the very best this is a break even proposition. When you consider the cost of money, how does this make sense?

ANSWER: We are not planning to spend anything approaching \$500M to establish a second source. The second source program provides a real opportunity to achieve huge cost savings through the introduction of competition and new manufacturing technology by the second source supplier. Over the life of the program, the Navy will also attain cost savings by competing the procurement of spare parts and the rework of missiles. Recent experience in other programs (e.g., CG-47) indicated that actual savings normally exceed that indicated by before-hand analysis. For example, the CG-47 analysis predicted a cost increase of \$400M. In fact, \$700M of savings occurred - a difference of \$1.1B. In a similar case, the Vertical Launch System analysis predicted increased costs of

\$57M. To date, we have saved \$83M - a difference of \$140M. Analysis does not predict the outcome of competition very well. Experience however does, and experience has shown not one single missile where second-sourcing has not brought many millions of net savings. We also feel there is a strong requirement to broaden the mobility base of such an important weapon system.

QUESTION: Meanwhile the Navy is spending money on conceptual development of a Phoenix replacement with a mid-1990s IOC which will reduce the Phoenix buy. Why haven't you considered that in your analysis?

ANSWER: The Navy intends to introduce a Phoenix replacement missile in the mid-1990's. However, inventories of that missile will not reach significant levels until the late 1990's. These factors were considered in our analysis of Phoenix second source.

CAPTOR MINE PROGRAM

QUESTION: Admiral Watkins, I note you proposed no procurement of the CAPTOR Mine. Does that mean the Navy does not need more of these deep water mines?

ANSWER: [Deleted] CAPTOR procurement [deleted]
[deleted]. Any CAPTOR ASW barrier shortfall will be covered through use of other ASW assets which normally operate in conjunction with CAPTOR.

QUESTION: In the mine program, does expanded R&D or procurement have a higher priority?

ANSWER: A balance must be struck in establishing priorities between production and R&D. Whereas production expenditures result in the achievement of a relatively near term capability, support for R&D programs represents a long term commitment to achieving a future mining capability. At the present time there is need to improve warfighting capability which translates to an increased emphasis on production of ordnance items such as CAPTOR, QUICKSTRIKE and SLMM designed to meet the present threat. The mine R&D that is now being conducted addresses the improvement of the design of those mines now in production and uses readily available technology to provide a continuing upgrade to the mine stockpile. Longer term R&D is also being conducted toward developing a new generation of mines that will meet the projected threat of the year 2000.

HARM ANTI-RADIATION MISSILE

Mr. Secretary, two years ago the Navy unsuccessfully sought to establish a second source of production for the HARM missile. At that time, the prime contractor backed up his claim of future cost savings with "not to exceed" options.

QUESTION: Are the cost savings anticipated by OSD and the prime contractor materializing and are you satisfied with the situation today?

ANSWER: The FY 1985 contract negotiations, concluded in March 1985, show a favorable program cost trend. This trend coupled with other cost reduction measures pursued by the Navy,

such as development of second sources for major subsystems and initiation of cost reducing producibility changes, is producing positive long term cost savings. The greater reductions achievable if we had succeeded in establishing a second source would have been dramatic from the third year on.

CONSULTANTS AND CONTRACTOR SUPPORT SERVICES

QUESTION: I understand the Navy is the only service having difficulty meeting Congressional ceilings on consultants and contractor services. Can you explain why the Navy is the only service that is feeling the crunch? Are you aware of any differences among the Services in how contractor support is defined?

ANSWER: The Navy is complying with Congressional direction in Section 308 of the FY 1985 Defense Authorization Act. The Congress imposed a spending limitation on obligations and expenditures for consultants, studies and analyses, management support contracts, and contract systems and technical engineering.

The Department of the Navy initially imposed a temporary freeze on expenditures for contractor support in order to assess the impact of Section 308, so that it could rationally execute its share of the legal spending limitation. That freeze has been lifted, but in order to ensure compliance with its share of the legal limitation, the Department has now provided appropriate ceilings on obligations and expenditures for this type of contractual activity to its executing commands. Given these ceilings, it is clear that some contract efforts in support of authorized programs for which funding has been appropriated will not be executed as planned.

Meanwhile, the other Military Departments are currently assessing the effect of Section 308 on their FY 1985 program execution. For purposes of compliance, the Department of the Navy has adhered to the Department of Defense definitions used to prepare budget estimates of contractor support effort in the PB 21 and PB 25 exhibits which are submitted to the Congress.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

POSEIDON SUBMARINE DEACTIVATION

QUESTION: The Navy is planning to spend \$21 million to dismantle the first of four or more POSEIDON submarines in order to comply with the unratified SALT II Treaty. Would you explain the authority under which the Navy Department is complying with the unratified SALT II Treaty?

ANSWER: A national decision has not yet been made concerning future U.S. actions with respect to the unratified SALT II Treaty. The Secretary of Defense has directed that planning be accomplished to ensure that dismantlement options are preserved in case a decision is made to continue the present "no undercut" policy.

TOMAHAWK DEPLOYMENT

QUESTION: Why does the U.S. Navy not deploy TOMAHAWK SLOMs on its remaining non-strategic but SALT I accountable Polaris submarines?

ANSWER: This alternative has been reviewed. It was determined that a commitment of significant resources of funds and shipyard capability would be required to make the necessary modifications to the weapons launch system and fire control system of these older Polaris submarines. With the limited service life remaining on these ships it was decided that it was not a cost effective option.

The attack submarine modernization programs do incorporate TOMAHAWK capability into our front line submarines during new construction and overhaul. These more capable submarines provide our submarine force with a cost effective TOMAHAWK capability.

TRIDENT II (D-5) MISSILE ACCELERATED DEPLOYMENT

QUESTION: Why was the TRIDENT II SLEM slowed down under the Reagan Administration? It could have been operational next year if it was accelerated in 1981, as some defense advisors recommended.

ANSWER: The TRIDENT II SLEM program was not slowed down under the Reagan Administration. On 2 October 1981, the President's Strategic Modernization Program was announced establishing a TRIDENT II Initial Operational Capability (IOC) date of December 1989. That IOC has remained unchanged.

In the spring of 1982, the question of program acceleration was studied by the Navy Research Advisory Committee. The Committee concluded that while a one year acceleration in IOC was feasible, weapons system maturity would be less at the start of production because of the one year compression of the advanced development effort and that the large near-term cost for the one year acceleration was not commensurate with the limited improvement in military capability which would have been achieved by acceleration of IOC.

As a result of the that study, the program was restructured in FY-83 so that the ninth and all follow-on TRIDENT submarines will receive the D-5 capability as they are built, and the first eight ships will receive the D-5 capability during their first overhaul. This restructured program will result in D-5 equipped ships deploying at a slightly faster rate than under the original plan.

QUESTIONS SUBMITTED BY SENATOR KASTEN

COMPETITION

QUESTION: In your statement, you note that you have taken major steps to increase competition. The Navy is to be commended for its effort in this area. Can you describe the Navy competition enhancement program? What effect has increased competition had on costs and the inclination of contractors to offer warranties?

ANSWER: Competition is the cornerstone of our acquisition strategy. Competition has produced impressive cost savings, and it will continue to reduce costs. We are seeking true competition, not merely its appearance. My policy is to establish and sustain second sources in every appropriate program. To demonstrate the Navy's commitment to increased competition in procurement, I established the position of Competition Advocate General of the

Navy in July 1983. In carrying out his responsibilities, the Competition Advocate General reviews proposed strategies and plans for all major acquisition programs and reviews all proposed contract awards which must be approved by the Senior Procurement Executive. As a flag officer occupying a high-level position, the Competition Advocate General has broad authority to challenge proposed noncompetitive acquisitions and to require changes prior to contract execution. The Competition Advocate General also leads a network of some 250 command competition advocates throughout the Navy and Marine Corps and issues guidance to help these acquisition professionals in doing their jobs.

Based on a sampling of documents reviewed in the normal course of business, we can document competition savings of \$1.5 billion during the fiscal years 1983 and 1984. In November 1984, we awarded six competitive, fixed-price, fiscal year 1985 shipbuilding contracts for a total of ten ships at a price of \$243 million less than budgeted. We believe much more was actually saved. In overall terms, in fiscal year 1984, we awarded \$14.5 billion competitively, or 37 percent of all Navy procurement dollars. If we assume a modest 15 percent savings from competition, which from our experience is a reasonable assumption, our total savings last year could have easily exceeded \$2 billion.

As for warranties, contractors in the defense marketplace are not inclined unilaterally to offer warranties. In a sole-source situation, business leverage is in the hands of the supplier, and thus, favorable warranty provisions at reasonable costs are always difficult to negotiate. Witness the fact that we virtually had to stop award of the fiscal year 1985 HARM missile contract to negotiate a comprehensive warranty with the sole-source supplier. In a competition situation, the tables are turned and leverage is in the hands of the buyer. In major acquisitions, we are bound by policy guidance set out in Section 794 of the Department of Defense Appropriation Act for fiscal year 1984, which requires that written guaranties be obtained in the procurement of weapon systems.

SHIPBUILDING MOBILIZATION BASE

QUESTION: I understand that you recently reversed an earlier decision of yours and directed that DDG-51 Guided Missile Destroyers be built on the west coast, despite higher labor costs there. You are to be commended for looking after the nation's shipbuilding mobilization base. At the same, I fear the Navy has neglected a substantial shipbuilding resource: I mean, of course, the Great Lakes region. What steps can the Navy take to reverse the decline of this important area?

ANSWER: This is incorrect. Navy policy for new ship construction is to compete the shipbuilding contracts in full and open competition and award to the low bidder. This policy is best evidenced in the Great Lakes region where local shipbuilding yards are building the Mine Countermeasures (MCM) ship class, the Rescue/Salvage (ARS) ship class, the Yard Patrol Craft (YP), Torpedo Weapons Retriever Craft (TWR) and the 50 foot work boats, all awarded competitively. The Navy considers the Great Lakes area to be an integral part of the overall industrial base and anticipates a FY 85 award of four MCMs in that region during the summer. The DDG-51, it has been awarded on a competitive basis.

MINE COUNTERMEASURES SHIP PROGRAM

QUESTION: The Mine Countermeasures (MCM) Ships have experienced a series of technical difficulties in the past years since the program began. It is my understanding that these problems will delay and increase the cost of the program. What delays do you expect in delivering the FY 1983 and FY 1984 MCM ships? What additional costs will be associated with these delays? What effect will these delays have on the FY 1986 buy of four ships? Is the military requirement for these MCM ships still of the urgency portrayed in past years? What are the Navy's plans to bring this program back on course?

ANSWER: The MCM program has had several technical issues, both in the design of the ships and in the new combat systems. We have been working the problems and have taken positive actions to resolve them. The ships will be delayed and there will be increased costs. The Navy is conducting a program reassessment of technical issues, schedules and costs. This is on-going, therefore specific dates and costs are not available at this time. The FY 85 ships have not been awarded because we want to ensure that prior to the award, the necessary technical changes have been incorporated into the specifications, are understood by the shipbuilders and vendors and that adequate testing is planned to ensure satisfactory performance. There is still an urgent military need for the ships to meet the current mine threat of our potential adversaries. Our aging MSOs, now being retired, are not effective against the current threat. It is a military necessity to complete the ships as soon as possible. In addition to the military need, the FY 86 ships are necessary to maintain production and learning levels in the shipyards and at vendors to preclude cost growth due to further delay and disrupted production lines. Once we have completed our program assessment and established the revised program baseline for schedules and cost, the program will be back on course. The Navy has focused a high level of attention on this program and this will continue as long as necessary to ensure that these urgently needed ships are delivered to the fleet as soon as possible.

MINESWEEPER HUNTER SHIP PROGRAM

QUESTION: What are your plans for second sourcing the MSH program; would this effort be addressed to the FY 1985 program? (NOTE: Talked with Marinette this morning - they believe they can do the job)

ANSWER: A significant increase in cost and technical risk would occur if a second source were awarded one of the FY 86 or FY 87 ships. (There are no FY 85 ships.) The MSH is a Glass Reinforced Plastic (GRP) Surface Effect Ship designed by Bell Aerospace, New Orleans Operations, during an open competition. The technology transfer of marine glass reinforced plastic technology from Sweden, through licensing agreements, and the non-recurring costs associated with controlled environment erection facilities, molds, layup machinery and labor training for the fabrication techniques would make it very costly to award a single ship to a second source. An incomplete detail design package and invalidated production process would have to be transferred to the second source. This would significantly increase the program risk.

A validated technical data package will be available for the FY 88 and FY 89 competition. If the same second source did not successfully compete for FY 88 or FY 89 ships, all of the non-recurring and capital investment costs would be borne on one ship.

It should be noted that the MSH-1 contract includes fixed priced options for the four FY 86 ships and four FY 87 ships. The shipbuilder included in his pricing all non-recurring costs and royalties. Removing one or more ships from this contract would require renegotiating the present contract with the resultant increase in price.

The present acquisition strategy requires a strong competition for the second flight of eight ships in FY 88 and FY 89 on a validated technical data package available in early CY 87.

MARITIME PREPOSITIONING SHIPS (MPS)

QUESTION: The Maritime Prepositioning Ships (MPS) concept was an innovative response to the problem of strategic mobility. I understand that there is one MPS brigade already on line with two more to follow within eighteen months. It is my understanding that MPS was never intended to become a substitute for amphibious shipping, since amphibious forces represent the major forcible entry capability that we have. Yet I hear rumblings that there may be a slow-down in amphibious ship construction in the near future, because some have argued that MPS makes amphibious operations unnecessary? What is your response to this point? Do you intend to keep amphibious shipbuilding on schedule?

ANSWER: The MPS concept does not include forcible entry nor the capability to make an amphibious landing. It is designed for employment only in a secure environment, either as a preemptive or follow-on support force. In 1983, the Navy and Marine Corps agreed on shipbuilding goals which would meet the DoD objective of providing lift sufficient for the Assault Echelons (AE) of one MAF and one MAB by 1994. The AE is the only force capable of conducting amphibious forcible entry on a hostile shore. The FY 1986 five year shipbuilding plan continues to fully support that agreement and both services remain firmly committed to keeping amphibious shipbuilding on schedule.

Senator Kasten: The Maritime Prepositioning Ships (MPS) concept was an innovative response to the problem of strategic mobility. I understand that there is one MPS Brigade already on line with two more to follow within eighteen months. It is my understanding that MPS was never intended to become a substitute for amphibious shipping, since amphibious forces represent the major forcible entry capability that we have. Yet, I hear rumblings that there may be a slow-down in amphibious ship construction in the near future, because some have argued that MPS makes amphibious operations unnecessary. What is your response to this point? Do you intend to keep amphibious shipbuilding on schedule?

General Kelley: The Marine Corps will have three MPS Brigades on line within 18 months. These Brigades are being structured, equipped, and trained to provide a rapid, pre-emptive naval response in unopposed situations, and/or a strategically mobile reinforcement capability for previously committed forces. The MPS Brigades will have a global response capability, will be capable of introduction without benefit of port facilities, and will be prepared for sub-

sequent employment ashore for 30 days without depending on Host Nation Support of other US/Allied land force elements. However, MPS Brigades are not a substitute for Marine Air Ground Task Forces committed in forcible entry amphibious operations. Furthermore, the capability to deploy two MPS Brigades will be achieved without compromising Fleet CINC abilities to employ simultaneously a Marine Amphibious Force (MAF) assault echelon and a Marine Amphibious Brigade (MAB) assault echelon amphibious forcible entry capability elsewhere. Only amphibious assault ships can provide the specialized capability required to expeditiously land the combat essential personnel, equipment cargo, and material necessary to successfully initiate the most complex military operation, the amphibious operation. The Secretary of the Navy fully supports a vigorous, ongoing amphibious shipbuilding program to provide sufficient amphibious ships to simultaneously lift the assault echelons of a MAF and MAB by 1994.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

DDG-51 AWARD ISSUES

QUESTION: Mr. Secretary, I would appreciate a report on the status of the Navy's pending decision on the award of a contract for the lead DDG-51 program.

ANSWER: The award of the DDG-51 contract will occur in early April.

QUESTION: According to recent press reports, the Navy is planning to compete the DDG-51 program among three shipyards. If this competition comes about, how would you anticipate splitting the annual contracts among the yards?

ANSWER: Introduction of a second shipbuilder will occur in FY 87 and a third builder could be introduced in FY 87 or 88. The exact splitting of awards will be decided when proposals have been evaluated and with continued Congressional support of quantity procurement of these ships.

QUESTION: If a third shipyard is brought into competition for the DDG-51 ships, what would be the impact on the total program in terms of cost and schedule?

ANSWER: Our plan incorporates a third shipbuilder beginning in FY 87 or 88 depending on the number of ships. We have learned from our experience in the procurement of the FFG-7 class ships that for the purchase of the planned number of DDG-51 ships, three shipbuilders lead to the lowest price and best delivery schedule.

QUESTIONS SUBMITTED BY SENATOR STENNIS

COMPETITION

QUESTION: Mr. Secretary, you have used competition successfully to bring down prices. If competition continues to grow more intense, how will you avoid contractors "buying in" with low bids that are unrealistic? Could this lead to the bad situation with claims and overruns that we had before?

ANSWER: We expect that competition for Navy contracts will grow more intense because we intend to continue our plan to significantly raise the level of competition in procurement. We do not expect, however, that there will be a problem with "buy ins," for several reasons.

We are not against accepting a bargain as we seek high-quality goods and services at fair and reasonable prices, but we are intensifying our reviews of the capabilities of competing firms to perform under proposed contracts. We plan to see that the provisions of executed contracts are fully enforced.

We are recompeting most of our contracts on an annual basis. A contract with one or two annual options will be recompeted after the exercised options expire. These short time frames, coupled with the certain knowledge that a requirement will be recompeted, substantially diminish the effectiveness of a "buy in" because a contractor employing such a tactic has no reasonable expectation of recouping his costs over the long term. In the past, successful "buy-in" contractors might become entrenched hoping to then "get-well" through a series of contract changes over time.

We are also defining our requirements more carefully at the outset of a program, and we are controlling changes during production which, in the past, led to cost growth. By more carefully specifying latest improvements during production, we are better able to maintain our discipline on design capability. Our Aircraft Characteristics Improvement Board and Ships Characteristics Improvement Board have been established specifically to control design and equipment changes in production aircraft and ships.

We have moved away from a policy of treating cost-plus contracts as normal, to a policy of treating them as being acceptable only for very high-risk programs. Our standard production contracts are now fixed-price-type contracts, either firm fixed-price whenever appropriate or incentive-type with equal sharing of contract costs by the government and the contractor through 50/50 sharelines. Under these contract arrangements, contractors have strong motivation to control costs and they are penalized for overruns. This type of contracting requires the contractor to know and, more importantly, bid accurately on the risks of the project under procurement.

Tied closely to our emphasis on competition and design stability is our use of effective "should-cost" studies, which provide a clearer picture of what our acquisitions should cost, and enable our acquisition managers to identify and challenge unrealistically low bids. In this effort, we rely heavily on the in-house engineering and design capabilities of our laboratories. These facilities have substantial experience in analyzing documentation, reviewing production line discipline, and validating quality control procedures. Unlike some should-cost studies, ours are not paper audits, but rather are based on an independent technical manufacturing and engineering analysis to tell us what we should realistically expect to pay for the effort.

Shorter time frames to preclude entrenchment, fewer changes to limit cost growth, greater contractor cost responsibility, a known and demonstrated reluctance against "get-well schemes," and effective validation of cost realism are all factors which are part of our efforts to diminish the effectiveness of "buy-ins" and preclude the claims and overrun situations of the past.

OVERALL SHIPBUILDING REQUEST

Question: I understand that the Navy shipbuilding budget request for this year is less than that appropriated last year. Would you give us the figures on that and relate the trend in the shipbuilding growth to the growth in the overall defense budget?

Answer: The FY 1986 Shipbuilding and Conversion, Navy (SCN) request in Total Obligational Authority (TOA) terms is \$11,411.6 million or \$324.4 million less than the FY 1985 appropriated amount of \$11,736.0 million. It should be noted that the current FY 1985 TOA for shipbuilding is \$11,584.5 million reflecting a proposed transfer out of SCN of \$151.5 million based on using TRIDENT savings to pay for high priority shortfalls elsewhere in the budget. Further, this reduced SCN request will still permit the authorization of more ships in 1986 than could be procured in 1985 due to the savings accrued from improved contractual management and competitiveness of the active shipbuilding program.

The trend in shipbuilding growth compared to overall Department of Defense budget growth since FY 1981 is shown below:

Real Program Growth

	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
SCN	10.5%	5.0%	81.0%	-31.9%	-3.9%	-6.0%
TOTAL DoD	11.6%	12.3%	8.9%	4.8%	6.1%	6.0%

As can be seen, real program growth in SCN has been lower than the total DoD growth in all years except FY 1983 when two carriers were included in the budget. It should be noted that the average real growth for SCN is 4.4% over this period while the comparable growth amount for DoD is 8.2%.

NAVY'S OCEANOGRAPHY PROGRAM

Mr. Chairman, I would like to take a few moments to talk about the Navy's oceanography program and to compliment these fine men—Secretary Lehman and Admiral Watkins—on their efforts in this regard.

Both of these gentlemen emphasized the importance of our oceanographic program in statements made last year. They also stressed the need for a major reinvigoration of Navy oceanography and called for steps to improve our efforts in this area. These steps included upgrading the Oceanographer of Navy (reorganizing his duties and making him report directly to the CNO), improving the oceanographic career opportunities and training, procurement of oceanographic satellites and ships, and establishment of an "Institute for Naval Oceanography" with a super computer which would ensure the Navy's leadership in fine universities and research institutions.

I am pleased to see that you are trying to pull together all the various aspects of oceanography. It is sometimes difficult to distinguish between the research and development phase and operations phase of oceanography since both involve research of the

oceans. It might be helpful to draw these various activities under a single flag officer commander who could give on-site supervision to these major activities.

With regard to the establishment of an Institute for Naval Oceanography, I would like to point out that the Navy's main oceanography command is located in Bay St. Louis, Mississippi, and is staffed by highly talented experts who reside there. It is my hope that this institute will be located there.

QUESTION: Secretary Lehman, Admiral Watkins, would each of you please comment on the status of the oceanography program as you now see it?

ANSWER: The growing importance of oceanography to our national defense led last year to a number of major new initiatives for Naval Oceanography. These initiatives, which are expected to ensure the Navy's leadership position in this vital area, include greater educational emphasis and opportunities for Navy oceanography officers; expanding the Navy oceanography officer field to bring in more aviators, submariners, and surface officers; expanding the fleet participation of the navy oceanographers; increasing the number of Secretary of the Navy Fellowships and Chairs of Oceanography at academic institutions; plans for an oceanographic ship expansion and modernization program; plans for optimizing the use of Navy deep submergence assets for all forms of oceanographic activities; and increased funding for ocean science and technology base programs.

To give greater emphasis to oceanography management, the Oceanographer of the Navy will report directly to the Chief of Naval Operations. This reorganization, which provides greater visibility for oceanography, is a necessary step in reinvigorating naval oceanography and ensuring Navy's leadership in this vital area. Our success will be marked, in large part, by effective management and execution.

In this regard, the Commander, Naval Oceanography Command, Naval Oceanographic Office and Naval Ocean Research and Development Activity will assume increased responsibility and importance. Another major initiative is to develop a program plan for establishing an Institute for Naval Oceanography to focus on the difficult problem of ocean modeling. This Institute will be a means for models to make full use of satellite data. Toward that objective, another initiative stresses the continued support of the Navy Remote Ocean Sensing System (N-ROSS) satellite. N-ROSS will daily provide greatly expanded coverage of world ocean conditions. An advanced computer is planned to support the modeling and expanding oceanographic data processing requirements.

Ten years ago, the Navy brought together in a central location (Bay St. Louis, Mississippi) principal activities involved in basic research and development programs and operational oceanography. As was envisioned, Naval Oceanography has benefited as a result.

We will continue to look at how we can achieve further organizational and programmatic improvements consistent with the ongoing reinvigoration of Naval Oceanography. The Naval Oceanography Command in Bay St. Louis has been established as a major command, and attention is being given to more effectively coordinating all our oceanography activities.

We believe Naval Oceanography is gaining the increasing recognition of its vital importance to naval operations. Management has and will continue to be streamlined to ensure that we can quickly acquire and exploit the oceanographic forces—under, on, and over the ocean surface.

CAPTOR

QUESTION: There are no funds included in the budget request for the CAPTOR mine. The Navy is very short of its inventory requirement and Admiral McDonald, CINCLANT, testified before the Senate Armed Services Committee that this was a problem to him. It appears we are reducing our overall antisubmarine warfare capability at the same time that the Soviets are expanding their submarine force. Is this correct?

ANSWER: CAPTOR procurement [deleted]
[deleted]. The CAPTOR inventory requirement has been reviewed in the context of our total ASW capability, which we have carefully balanced within available funding. The ASW programs contained in the budget request represent our best assessment of the force mix required to meet the current and projected Soviet threat.

QUESTION: Admiral Watkins, do you believe we have sufficient mines to fulfill our requirements, as well as commitments to NATO and other treaty countries?

ANSWER: The current CAPTOR funded inventory of (d) mines is constrained (deleted). The usefulness of mining (d). I therefore believe we can meet our commitments with the ASW programs contained in the budget request and which represent our best assessment of the force mix required.

QUESTION: I understand special testing is currently underway which could increase our need for CAPTOR mines. What is the status of this testing and what are your findings as to the capability of CAPTOR to date?

ANSWER: Preliminary testing of the CAPTOR detection and control unit (DCU) took place (deleted), October/November 1984. Testing (deleted) is planned (deleted). Any requirement for additional procurement of CAPTOR will be dependent on the results of those tests.

 QUESTIONS SUBMITTED BY SENATOR PROXMIRE

ELECTRIC BOAT CONTRACTS

QUESTION: You have previously given me some of the information I have requested about the Electric Boat contracts, but I have not yet received responses to all of my questions. In addition to what I have already asked for, will you provide me with a list of escalated target costs, target profits and target profits as a percent of escalated cost for each of the Flight I and Flight II 688 Class submarines awarded to Electric Boat? Will you also provide me with the same breakdown for all the 688 Class submarines awarded to Newport News through 1980? Provide me with a list of actual costs to the Navy for construction of 688 submarines built by Newport News.

ANSWER: The information you requested is attached:

12 April 1985

SSM 688 Class Submarines

FY	Ship	Date of Award	Ship Yard	Comp.	Fixed Price Incentive Shareline Overrun/Underrun	(In Millions of Dollars)		Target Profit	Target Escalated Cost	Actual or Estimated Delivery Date	Months		Actual or Projected Cost \$	Actual or Projected Profit \$
						Target Cost	Target Profit				Original Contract	Current Contract		
70	SSM 690	1/08/71	GD	Yes						6/10/77	23	0		
71	SSM 692	1/08/71	GD	Yes						3/10/78	28	0		
71	SSM 694	1/08/71	GD	Yes						6/09/78	27	(7)		
72	SSM 696	1/08/71	GD	Yes						1/23/79	31	(2)		
72	SSM 697	1/08/71	GD	Yes						11/30/79	37	0		
72	SSM 698	1/08/71	GD	Yes						2/13/81	47	0		
72	SSM 699	1/08/71	GD	Yes						3/31/81	45	0		
73	SSM 700	10/31/73	GD	Yes						6/26/81	44	0		
73	SSM 701	12/10/73	GD	Yes						9/30/81	43	0		
73	SSM 702	10/31/73	GD	Yes						12/18/81	41	0		
73	SSM 703	12/10/73	GD	Yes						12/22/81	37	0		
73	SSM 704	10/31/73	GD	Yes						7/19/82	41	0		
73	SSM 705	10/31/73	GD	Yes						11/24/82	42	(1)		
74	SSM 706	10/31/73	GD	Yes						4/14/83	42	(1)		
74	SSM 707	12/10/73	GD	Yes						8/27/83	43	(2)		
74	SSM 708	10/31/73	GD	Yes						2/17/84	44	(1)		
74	SSM 709	12/10/73	GD	Yes						7/16/84	46	(2)		
74	SSM 710	10/31/73	GD	Yes						12/07/84	46	(2)		
General Dynamics ships SSM 690 through SSM 710 were included in the Public Law 85-804 settlement of 21 July 1978. These ships were built at a substantial loss to General Dynamics. It is estimated that the total losses will exceed \$480 million.														
70	SSM 688	1/08/71	NNS	No	70-30/80-20	71.5	8.0	11.2%		11/02/76	26	0	131.9	(2.7)
70	SSM 689	1/08/71	NNS	Yes	70-30/70-30	60.5	5.6	9.3%		6/10/77	24	0	93.7	(4.5)
71	SSM 691	1/08/71	NNS	Yes	70-30/70-30	61.9	5.6	9.0%		12/14/77	26	0	90.0	(1.6)
71	SSM 693	1/08/71	NNS	Yes	70-30/70-30	61.9	5.6	9.0%		5/26/78	27	0	86.8	3.9
72	SSM 695	1/08/71	NNS	Yes	70-30/70-30	61.8	5.7	9.2%		12/08/78	28	0	92.2	0.1
75	SSM 711	8/01/75	NNS	Yes	85-15/70-30	154.1	12.8	8.3%		4/07/81	8	0	142.4	15.7
75	SSM 712	8/01/75	NNS	Yes	85-15/70-30	144.1	11.5	8.0%		2/26/82	8	0	142.9	12.7
75	SSM 713	8/01/75	NNS	Yes	85-15/70-30	143.8	11.2	7.8%		9/21/82	7	0	150.9	11.5
76	SSM 714	2/20/76	NNS	Yes	85-15/70/30	144.3	11.0	7.6%		5/07/83	7	0	156.6	10.7
76	SSM 715	2/20/76	NNS	Yes	85-15/70-30	144.7	10.8	7.5%		10/27/83	7	1	161.7	10.4

FY	Ship	Date of Award	Ship Yard	Comp.	Fixed Price Incentive Shareline Overrun/Underrun	(In Millions of Dollars) Target Cost Escalated	Target Profit	Target as Percent of Escalated Cost	Actual or Estimated Delivery Date	Months Late (Early) Original Contract Contract	Actual or Projected Contract Cost \$	Actual or Projected Profit \$
77	SSN 716	9/15/77	NNS	Yes	80-20/70-30	166.4	16.1	9.7%	4/30/84	7	201.2	16.6
77	SSN 717	9/15/77	NNS	Yes	80-20/70-30	162.2	15.4	9.5%	11/14/84	7	207.2	14.6
77	SSN 718	9/15/77	NNS	Yes	80-20/70-30	162.6	15.4	9.5%	6/10/85	8	209.4	14.3
78	SSN 719	4/16/79	GD	Yes/1/	80-20/70-30	162.9	17.4	10.7%	6/29/85	10	278.5	12.6
79	SSN 720	4/16/79	GD	Yes/1/	80-20/70-30	152.3	15.8	10.4%	11/30/85	8	243.1	13.1
80	SSN 721	8/13/81	NNS	No/2/	50-50/50-50/3/	265.5	33.6	12.7%	6/86	(6)	257.5	36.8
80	SSN 722	8/13/81	NNS	No/2/	50-50/50-50	266.5	33.8	12.7%	9/26/86	(9)	252.4	35.5
81	SSN 723	8/13/81	NNS	No/2/	50-50/50-50	276.8	35.1	12.7%	3/27/87	(9)	266.0	36.7
81	SSN 724	2/11/82	GD	No	50-50/50-50	277.8	35.0	12.6%	12/05/86	(1)	255.0	35.2
82	SSN 750	4/19/82	NNS	Yes	50-50/50-50	307.5	35.4	11.5%	5/29/87	(6)	266.2	36.5
82	SSN 725	4/19/82	GD	Yes	50-50/50-50	307.1	39.3	12.8%	7/01/87	(6)	265.9	40.2
83	SSN 751	11/30/82	GD	Yes	50-50/50-50	340.0	38.9	11.4%	11/14/87	(8)	294.8	43.3
83	SSN 752	11/30/82	GD	Yes	50-50/50-50	312.9	36.9	11.8%	3/31/88	(8)	273.6	40.2
84	SSN 753	11/29/83	NNS	Yes	50-50/50-50	301.1	34.6	11.5%	5/31/88	0	279.2	38.3
84	SSN 754	11/28/83	GD	Yes	50-50/50-50	290.4	34.7	12.0%	7/30/88	0	270.6	32.2
84	SSN 755	11/28/83	GD	Yes	50-50/50-50	274.2	33.3	12.1%	12/10/88	0	257.1	30.4
85	SSN 756	11/26/84	NNS	Yes	50-50/50-50	287.9	37.4	12.9%	5/31/89	0	/5/	/5/
85	SSN 757	11/26/84	GD	Yes	50-50/50-50	303.7	38.3	12.6%	6/28/89	0	/5/	/5/
85	SSN 758	11/26/84	NNS	Yes	50-50/50-50	278.6	35.8	12.8%	9/30/89	0	/5/	/5/
85	SSN 759	11/26/84	NNS	Yes	50-50/50-50	270.6	35.5	13.1%	1/31/90	0	/5/	/5/

/1/ Buy-In

/2/ Competitive proposals received from both NNS and EB. To sustain competitive industrial base, award of three ships was made to NNS upon negotiation of prices and one ship was suspended pending verification of EB's resolution of quality problems.

/3/ Start of anti-claims clause, stronger notification of changes clause and more stringent Government Insurance clause.

/4/ NNS submitted competitive proposal for base contract with options but withdrew from consideration.

/5/ Meaningful estimates not available.

QUESTION: Provide a list of the number of manhours estimated by Electric Boat in their contract proposals for each of the Flight I and Flight II 688 submarines, and the actual manhours spent, for submarines that have been completed.

ANSWER: The information is contained in contractor documents which bear a restrictive legend restricting its disclosure outside the government or use for other than evaluation. Such disclosure without contractor permission may violate 18 U.S.C. 1905. If you desire the information, a closed briefing may be arranged.

QUESTION: Provide the same information for the 688 submarines completed by Newport News.

ANSWER: The information is contained in contractor documents which bear a restrictive legend restricting its disclosure outside the government or use for other than evaluation. Such disclosure without contractor permission may violate 18 U.S.C. 1905. If you desire the information, a closed briefing may be arranged.

QUESTION: Provide a list of contract delivery dates for each of the 688 submarines built by Newport News and the actual delivery dates for ships that have been delivered.

ANSWER: The information appears on the preceding table.

QUESTIONS SUBMITTED BY SENATOR INOUE

CAPTOR

Question: The Navy did not request funds for continued production of CAPTOR mines. Yet we are substantially short of both our own requirements as well as our commitment to NATO. What do we tell our allies about this situation? I am told this is the

[deleted] deep water mine [deleted]

[deleted]. Are there alternatives other than to assign our oversubscribed ASW aircraft and submarines to the forward barrier missions?

Answer: Our current CAPTOR inventory and procurement plans have been provided to NATO nations [deleted]

[deleted], which specifically identifies (d) mines for NATO commitments. I believe we can meet our commitments, including those associated with forward barrier missions, with the ASW forces we have requested in the budget which represent our best assessment of mix of forces we will need.

QUESTION: Our ASW assets have typically had an unfavorable kill ratio in protected forward areas. Doesn't CAPTOR provide a cost effective and reliable ASW asset in the overall ASW offensive force capability?

ANSWER: Yes.

QUESTION: In terms of the special testing that is underway involving CAPTOR, how do you rank this weapon systems performance to date when compared with the design specifications and performance envelopes of the other systems tested?

ANSWER: Only preliminary testing of the CAPTOR detection and

control unit (DCU) (deleted) has been completed. The (deleted) payload must also be tested (deleted). An evaluation of comparative weapon systems performance (deleted) cannot be made at this time.

QUESTION: Is this a proper time to terminate CAPTOR when completion of the testing as well as other tactical requirements could well substantially dictate the need for increased quantities?

ANSWER: CAPTOR production (deleted). Should continued testing of CAPTOR components (deleted) prove successful it may be necessary to reassess the need for a higher inventory objective.

QUESTIONS SUBMITTED BY SENATOR HOLLINGS

NAVY'S 1985 BUDGET REQUEST

QUESTION: For the Congressional review of the Navy's 1985 budget request, how many Navy witnesses were asked to appear before the Congress? How many Congressional committees and subcommittees were involved? How many hearings and hours of testimony were involved, and how much time was used by Navy personnel in preparing testimony? How many reports is the Navy required to prepare for Congressional use, including the number of personnel and time used in preparing the reports?

ANSWER: So far, about halfway through the year approximately 810 principal and back up Navy witnesses appeared before two full committees and 22 subcommittees in 199 hearings which involved approximately 400 hours of actual testimony. Additionally, 422 briefings involving 756 briefing officers were also given. Future scheduled and expected hearings will raise this number to about 1500 to 1600 and will involve about a dozen additional committees and subcommittees, judging from past years.

The hearings are, however, just the "tip of the iceberg". Last year alone, 4290 questions for the record resulted from the formal hearings. An additional 2768 requests for information were made. The Armed Services and Appropriations committees required that the Navy submit 80 reports to the Congress.

Statistics on the time involved in preparing for testimony, and the number of personnel and time used in preparing reports are not available. Keeping those kinds of statistics would require more manpower and would only exacerbate a burden that is already onerous.

The effort required to prepare the response to this question provides a good example of the manpower involved in responding to Congressional tasking. Approximately 14 hours of research and clerical time were devoted to answering this one question! Additionally, the response had to be reviewed for accuracy, and possible security breaches, and approved by myself. This question is by no means atypical. Many questions require significantly more research, computer time, review, etc. For example, one report that I just signed out, a report requested by your committee, contained 257 pages of detailed information. Obviously, preparations for hearings and briefings require a great deal more time and effort.

In summary, as the number of Congressional committees that

oversee the Navy has grown from 4 to 40 during the last 10 years, the time and manpower devoted to responding to Congressional inquiries has grown proportionately. A real reduction in the Navy's bureaucracy can only occur with a parallel reduction in the bureaucracy to which it is responding.

QUESTIONS SUBMITTED BY SENATOR BYRD

FIVE-YEAR CONSTRUCTION PLAN

QUESTION: What construction projects are contemplated in the latest Navy and Naval Reserve Five-Year Plans for West Virginia?

ANSWER: There are no projects in the Navy and Naval Reserve Five-Year Plans for West Virginia.

QUESTION: Which, if any, of these projects could be accelerated into Fiscal Year 1986?

ANSWER: There are no such projects.

QUESTION: What more can be done to modernize West Virginia Navy and Naval and Marine Corps Reserve Facilities?

ANSWER: The Navy and Naval Reserve facilities in West Virginia are at a satisfactory level of modernization. Of the four Naval and Marine Corps Reserve centers, three have benefited from Military Construction projects in the last ten years. The fourth, at Huntington, West Virginia, is scheduled for a Whole Center Repair in Fiscal Year 1986.

QUESTION: What is the latest status of the progress of the construction of the new Naval and Marine Corps Reserve Center in Moundsville?

ANSWER: The construction contract was awarded in September 1984 and work is progressing at a satisfactory rate. Construction is expected to be completed in October 1985.

QUESTION: What about the combined Armed Forces Reserve Center in Charleston?

ANSWER: The Charleston Armed Forces Reserve Center construction contract was awarded in September 1984. The project was delayed when the contractor defaulted, but the construction bonding company has resumed work and completion is expected early in 1986.

QUESTION: How soon can the facilities in Huntington, West Virginia be repaired or modernized?

ANSWER: It is planned to execute a Whole Center Repair of the Naval Reserve Center in Huntington, West Virginia in Fiscal Year 1986.

APPOINTMENT TO DEFENSE APPROPRIATIONS SUBCOMMITTEE

QUESTION: Mr. Secretary, I have just recently received an appointment as a member of the Defense Appropriations Subcommittee. I am very pleased to add the Defense Subcommittee to my Appropriations Committee assignments.

I know how important our National Defense is to West Virginians — that is why I asked to serve on the Subcommittee.

Mr. Secretary, Admiral Watkins, I want you to be aware, if

you are not so already, that West Virginia has a record or participation and sacrifice in World War II, Korea, and Viet Nam that may well be unmatched by any other state. Now we in West Virginia find ourselves burdened with extraordinary high unemployment. This is a priority concern with me, and I expect to be working closely with you and the other service secretaries to see what can be done to increase the Defense Department's presence in the State of West Virginia with a view of helping to alleviate the unemployment problem. I would like to be assured that I will have the full cooperation of the Navy and Marine Corps in this endeavor. May I have your assurances? Mr. Secretary, Admiral Watkins, General Kelly, do any of you have any suggestions or recommendations for increasing the Department's presence in West Virginia that you would like to submit for the record at this point? I would like to see some thoughtful recommendations in the record.

Mr. Secretary, I trust that you and your staff will keep me personally informed on all matters relating to the Department of the Navy and the Naval and Marine Corps Reserve in West Virginia. May I have your assurances on that?

ANSWER: Senator, I certainly recognize the contributions that the citizens of West Virginia have made and continue to make toward the security and defense of our nation. In order to reciprocate and to ensure that the Navy supports economic recovery in your state, we will continue our efforts to encourage maximum participation by West Virginia contractors in competition for Navy contracts. Navy representatives regularly travel throughout the country addressing members of local business communities concerning procedures for competing for government contracts. RADM Sansone, Deputy Chief of Naval Material for Contract Business Management, visited your state on one of several Navy liaison trips to West Virginia last year.

Representatives from the Naval Facility Engineering Command and my office for Small and Disadvantaged Business Utilization made presentations at the West Virginia Defense Trade Fair on 4 April. Events such as this provide us excellent opportunities to furnish first-hand advice and guidance concerning successfully and legally competing for Navy contracts. We stand ready to meet with any group of businessmen in your state and to do whatever we can to insure that West Virginia receives equal and competitive consideration in the process of awarding Navy contracts.

The Navy Office of Legislative Affairs will continue to keep you fully informed of all matters concerning the Department of the Navy including the Naval and Marine Corps Reserve in West Virginia.

DOD Presence in West Virginia

Question: Mr. Secretary, Admiral Watkins, General Kelly, I want you to be aware, if you are not so already, that West Virginia has a record of participation and sacrifice in World War II, Korea, and Viet Nam that may well be unmatched by any other state. Now we in West Virginia find ourselves burdened with extra-ordinarily high unemployment. This is a priority concern with me, and I expect to be working closely with you and the other service secretaries to see what can be done to increase the Defense Department's presence in the State of West Virginia with a view of helping to alleviate the unemployment problem. I would like to be assured that I will have the full cooperation of the Navy and the Marine Corps in this

endeavor. May I have your assurances? Mr. Secretary, Admiral Witkins, General Kelly, do any of you have any suggestions or recommendations for increasing the Department's presence in West Virginia that you would like to submit for the record at this point? I would like to see some thoughtful recommendations in the record.

General Kelley: With regard to Marine Corps Contracts, we would be pleased to have additional suppliers from West Virginia. It would be most useful to our efforts to increase competitive contracting. I would encourage the Senator to advise constituents to subscribe to the Department of Commerce's "Commerce Business Daily," which lists all of our significant upcoming procurements. I think West Virginia industry could, in particular, contribute in the area of spare parts purchase, where we, along with the other services, are attempting to broaden our competitive base. The Marine Corps' record on awarding contracts competitively is well established. In fiscal year 1984, 63.6% (in terms of total dollar value) of all contracts awarded by the Marine Corps were on a competitive basis. In fiscal year 1985 to date, the rate is even higher, with 81.5% being awarded competitively. Of course, we would be pleased to circulate throughout the MARCORPS Contracting offices any listing of West Virginia industrial firms and their capabilities that can be provided.

QUESTIONS SUBMITTED BY SENATOR SASSER

SCN

QUESTION: Mr. Secretary, how many ships have been approved by the Congress in the last five fiscal years?

ANSWER: In the last five fiscal years Congress has appropriated 109 ships.

SHIP OPERATIONS

Since Fiscal Year 1979, the Navy budget has been increased by the Congress by an average of 5.1%. It is clear that the House and Senate are supporting a stronger Navy.

But as you know, Mr. Secretary, these are tough budget times. The Federal Budget deficit is the largest in history. It is clear that these deficits cannot be permitted to continue to mount. Therefore, all elements in the Federal Budget must be scrutinized for possible cuts and reductions, including the budget of the Navy.

One of the concerns I bring to this subcommittee is the concern that the Navy has embarked upon such a large procurement program--several new \$17 billion carrier groups--that we may be shortchanging readiness.

As a portion of the total Navy budget, the Operations and Maintenance account is being reduced from 28.9% in FY--85 to 27.2% in FY-86. In fact, ship operations are to be reduced by \$161.2 million--from \$2 billion 438 million to \$2 billion 277 million. The proposed Operations and Maintenance budget for Navy's actual ship operations is to be reduced in actual dollars, even though there will be 13 more battle force ships in FY-86 than in FY-85.

Yet, the budget documents would lead us to believe that you

plan to maintain the same number of steaming days per quarter in FY-86 that you did in FY-85—50.5.

QUESTION: How can the Navy expect to reduce the funds available for ship operations, while increasing the number of ships, and still maintain the same number of steaming days? Are more economical ships coming on-line that cost less to operate?

ANSWER: Pricing changes have reduced the funding required for a level program, adjusted for inventory force level gains in FY-86. The ship operations budget does decrease by \$161.2 million, but a barrel of fuel costing \$39.00 in FY-85 will cost \$34.44 in FY-86, creating a \$130.1 million pricing decrease. Also, repair parts for DON managed equipments will be priced 11.8 percent lower in FY-86 than in FY-85. The net result is sufficient program growth in FY-86 to take into account the cost of operating additional new and reactivated ships while maintaining overall OPTEMPO at the same level as in FY-85.

NAVY ADMINISTRATION

QUESTION: Although the amount of funding dedicated to ships operations are budgeted for a reduction, operations and maintenance funds for Department of the Navy administration are scheduled to increase \$56.5 million to \$767 million. Please explain why this increase is necessary.

ANSWER: The funding for ship operations decreases \$161.2 million in FY 1986 due to pricing changes. Fuel for ship operations in FY 1986 will cost \$34.44 a barrel compared with \$39.90 in FY 1985 and repair parts for Department of the Navy managed equipment will be 11.8 per cent less expensive. After taking into account these pricing changes, there is real program growth in ship operations to fund the increased numbers of new and reactivated ships added to the force structure.

The increase in Administration of \$56.5 million from FY 1985 to FY 1986 supports growth in many areas tied directly to fleet support. Of the \$56.5 million, \$4.1 million is price growth, \$21.0 million reflects the transfer of funding from procurement appropriations due to changes in the expense/investment criteria, and \$31.4 million represents actual program changes. The major items included in the program changes are as follows:

- Annualization of programs approved in FY 1985
- Growth related to improvements in Navy accounting systems (GRASP, IDAFMS). Title 2 of the General Accounting Office (GAO) Accounting Principles and Standards for Federal Agencies requires that executive agency accounting systems be approved by the Comptroller General. GAO has returned a number of Navy accounting systems, and stated that no Navy systems will be approved until certain deficiencies are eliminated. The General Review and Approval of Accounting Systems Project (GRASP) will accomplish the improvements needed to achieve recertification of the Navy's accounting systems. Major goals of the program are to modernize and upgrade Navy accounting systems, develop accounting concepts and policies which comply with Title 2 of the GAO Manual, develop standardized procedures using the Department of Defense Uniform Chart of Accounts for Navy-wide application of Title 2 requirements, determine

the most cost effective alternative prior to proceeding with uniform systems development efforts, obtain GAO approval of the uniform systems, and satisfy user management requirements. Achievement of these objectives will provide the principles for improved financial management. These principles developed through GRASP will be incorporated into the Integrated Disbursing and Accounting Financial Information Processing System (IDAFIPS). The IDAFIPS project will establish integrated disbursing and accounting data bases to provide on-line input, update and inquiry capabilities and eliminate duplicate functions performed by disbursing offices and Authorizations Accounting Activities. Together these programs will provide Navy financial managers with complete, timely and accurate financial information on which to base their decisions.

- Increased effort by the Naval Audit Service to meet workload associated with ADP functions, financial management reviews, and expanded efforts in field audits. Additional workyears will allow the Audit Service to conduct additional audits within required timeframes, to achieve audit expertise in technical and rapidly changing areas such as ADP, and to provide Navy and Marine Corps managers with tools for better management through increased emphasis on internal control.
- Full implementation of the Navy Manpower Engineering Program.
- The Navy's Joint Uniform Military Pay System (JUMPS) has been decertified by GAO, and efforts underway to correct deficiencies in the pay system are keyed to achieving recertification. The major problems identified are that the current manual procedures are time consuming and overly labor intensive, the time delay required to mail forms to the Navy Finance Center, Cleveland results in inaccurate personnel records and incorrect pay, the lack of integration between pay and personnel records results in inconsistency, and incorrect pay records result in field disbursing officer overrides and a generally poor level of accuracy in pay accounts. The Source Data System (SDS) and the Personnel and Pay System Consolidated Data Center (PERSPAY) Project will correct these deficiencies. Under PERSPAY, personnel and pay records will be collocated at the Consolidated Data Center (CDC), and common data elements will be shared between the two data bases. This integrated data base will allow pay and personnel records to be updated simultaneously to greatly improve the overall accuracy of military members' records. SDS is a field level system which will be installed at Personnel Support Activities (PSAs), Personnel Support Detachments (PSDs) and onboard ships. Through SDS, the field will be able to communicate electronically with the CDC to ensure that events affecting a member's pay status will be recorded in a timely manner. The result will be accurate pay records, virtually eliminating the need for disbursing officer overrides. In addition, SDS will provide automated support for field level accounting functions, eliminating the need for most of the current manual procedures.

Included in this effort to provide automated support for timely and accurate pay and personnel accounting are the Navy Civilian Personnel Data System (NCPDS), the Data Resource Management Program, (DRM) the Officer and Enlisted Distribution Systems (ODS/EDS), and Decision Support Systems (DSS). NCPDS will automate the database and processing functions for civilian personnel, DRM examines and seeks to standardize data elements to facilitate sharing of common data between systems, ODS and EDS support the assignment of military personnel to duty stations, and DSS supports the distribution process by providing trade-off analysis of various types of personnel (active/reserve) with various skills. These efforts together will ensure the ability of the Navy to perform its necessary functions.

These programs are essential to ensure that military and civilian personnel are paid correctly, that funds are spent and accounted for properly, and to support the Navy's mission both ashore and afloat. Additional details are contained within the schedule of increases and decreases for Budget Activity 9 (Administration) in the O&M,N Justification Book 3.

STRATEGIC DEFENSE INITIATIVE

QUESTION: Can a "Star Wars System" be designed to provide an effective defense against cruise missiles and submarine launched ballistic missiles?

ANSWER: We must keep in mind that the Strategic Defense Initiative (SDI) is a long range Research and Technology effort. It is designed to answer a number of scientific and engineering questions that must be resolved before any decision is made to commence the design of a defensive system. The President and the Secretary of Defense, believe that given the recent advances in defensive technologies, with proper funding an effective defense against these ballistic missiles, including depressed trajectory SLBMS, is possible. The President has correctly identified strategic ballistic missiles as the greatest threat to the security of the United States and our allies. While SDI focuses on ballistic missiles as the greater threat to security and stability, the cruise missile threat has not been ignored. There are efforts under way, such as the Department of Defense SDA 2000 study, to address technologies for defense against cruise missiles. However, when compared with the intrinsic destabilizing properties of ballistic missiles with their high speed, relatively short warning times, and greater destructive potential, the cruise missile threat is of lesser significance at this time.

QUESTION: Since one of the missions of the star wars defense will be to defend against attacks on strategic naval bases, especially against naval assets still in port, are you satisfied that a star wars system will be sufficient to safeguard those priority naval locations from a soviet attack?

ANSWER: Again, the Strategic Defense Initiative is a long range research and technology program. If this program is successful, and a system is developed, a strategic naval base would enjoy the same protection as other military and civil assets.

JOINT CHIEFS OF STAFF REFORM

QUESTION: Mr. Secretary, many feel that the present system of the Joint Chiefs of Staff is outdated and does not provide the nation with quality military advice and readiness.

It has been suggested by some that the JCS must be reformed to achieve efficiency and improve national defense.

Most of the reform proposals would substantially increase the authority of Chairman of the Joint Chiefs of Staff.

Others are concerned that reforms, particularly reforms which could strengthen the chairman, could lead to the situation where the civilian authority over the military could actually be diminished.

I am advised that you have, in the past, opposed JCS reforms.

Do you still oppose reforming the JCS? Why do you oppose some reforms? And do you share the concerns which have been raised about the potential for a super Chairman becoming an equal to the Secretary of Defense?

ANSWER: I oppose the reforms that are now being proposed. They would restrict competent and responsible officers from doing their duty by imposing on them unnecessary bureaucratic layers. For too many years we have concentrated on organization charts and structure rather than on improving individual accountability and responsibility. If reform is needed, then let it remove rather than create obstacles to good performance.

I am indeed concerned about the possibility of a Chairman of the Joint Chiefs rivalling the authority of the Secretary of Defense. Concentrating more power in the CJCS position would be a significant step in this direction. The proposed increases in the Chairman's authority would come at the expense of the Secretary of Defense, a civilian, chosen by and accountable to the President as his executive agent.

The Joint Chiefs currently provide the National Command Authority (NCA) access to the widest range of expert military advice. Replacing the corporate nature of this arrangement with a single dominant officer would make our security too dependent on the personal qualities of a single person. This would, at least, be imprudent. Constitutionally it would violate the spirit of the President's role as Commander in Chief, since the opinions of a single officer, unchallenged by any other military views in the highest councils, would soon become impossible for even a president to resist. An equally dangerous situation would result from the reluctance of a future president to consider any military advice offered by a powerful Chairman whose views had not been tested by corporate deliberation and could not be contracted or resisted. A constitutional government of elected representatives of the people cannot defend itself in the absence of clear and proper distinctions between ultimate civil authority and professional military advice. Neither can such a government exist with a military officer as effective Commander in Chief.

DRAFT

QUESTION: Recently the NATO Commander stated that in his opinion a military draft will be necessary to fill the future needs of the Nation's Armed Forces. The Navy has already experienced

manpower shortages in some critical areas. Do you believe a draft will be necessary to man the 600 ship Navy?

ANSWER: No. Navy conducted extensive research on the future youth market and our ability to achieve the quantity and quality accessions necessary to man the programmed force structure from within that market. We have found that if planned accession levels remain at approximately 90,000 per year, with minimum quality goals (listed below), the Navy will be able to man the 600 ships. This projection assumes that retention rates will stabilize, military compensation programs and pay are competitive with the civilian sector, and adequate resources are approved to support the recruiting effort.

OFFICER BLOAT

LEAD-IN: Mr. Secretary, during World War II there was one admiral for every 130 ships. Today, the Navy states a requirement of one admiral for every two ships.

I have been reviewing the Defense Department's Manpower Requirements Report for FY-86. In that report it indicates that the Navy is planning to add four new admirals between FY-84 and FY-86.

In addition the report states that, overall, you plan to add one new officer for every six new enlisted slots created during the FY-84-FY-86 period.

INTRODUCTORY QUESTION: What is the explanation for the growth in the flag officers relative to ships?

ANSWER: While the ratio of flag officers to ships has increased since the peak of World War II, the validity of comparing a situation in which this country was totally mobilized and at war in Europe and the Pacific to our current peacetime state is questionable at best.

Today's flag officers are required to lead a Navy that is many times more sophisticated, complex, and costly than the Navy of World War II. They deal with a budget that exceeds \$100 billion in acquisitions and operations each year. By contrast, not a single company in the Fortune 500 comes even close, averaging only \$3.5 billion. The 253 flag officers that the Navy has now and has had since 1981, represent a small fraction of the hundreds of "flag equivalents" that the typical Fortune 500 firm employs, literally hundreds of executives with six figure incomes. It would be interesting to ask some of the "wizards of industry", so critical of the number of flag officers, to pare down to a similar ratio in their own firms.

The Navy/Marine Corps flag officer complement is nearly 100 less than the Army's for a comparably sized force and 25 less than the Air Force for a force that is 30% larger. The truth is the Navy has a requirement for more flag officers.

QUESTION: Why is the ratio of officers to enlisted men being increased?

ANSWER: The ratio of officer to enlisted men decreases during the FY 1985-1986 period as summarized below:

	FY-1985	FY-1986
OFF	70,973	72,077
ENL	495,802	509,698
OFF/ENL RATIO	1/6.99	1/7.07

BURDEN SHARING

QUESTION: It appears to me that we have failed to persuade our allies that it is necessary for them to provide a greater share of the common defense burden.

We have embarked on an unprecedented peacetime buildup of military capability, yet our allies have failed, substantially, to meet their commitments made during the last administration for military spending.

What are you doing as Secretary of the Navy to communicate to our NATO allies and Japan that they must assume a more fair share of the defense burden?

ANSWER: During discussions with our allies, the importance or cooperative defense efforts is always stressed. Our Maritime Strategy is designed to incorporate not only US Navy and Marine Corps forces, but also the forces of our allies. We conduct Navy-to-Navy staff talks with many of our allies on a continuing basis, and considerable attention is given to our concerns over the defense contributions of individual nations. We have made extensive progress in multi-lateral and bi-lateral agreements with allied navies and air forces.

I have personally stressed to Japanese officials the importance of their developing an effective territorial, air and sea-lane defense out to 1000 miles from mainland Japan.

As for our NATO allies, the Navy participates in, and is a strong advocate of, cooperative armament programs and the continued exploitation of new technology to improve overall defense capabilities and make these defense improvements affordable. I have spoken to officials in Great Britain, Norway, Germany, Italy, Turkey and other NATO countries about our Maritime Strategy and the crucial role that their forces play in our common defense. I am confident that they understand our goals and position on the matter of defense burdensharing. They must, however, make a greater effort in modernizing their naval forces.

BIENNIAL BUDGETING

QUESTION: It has been suggested by some that the defense budgeting process could be improved by instituting a two-year budget cycle. Does the Navy endorse a two-year budget? What do you see to be the strengths and weaknesses of such a budget cycle?

ANSWER: The Navy strongly endorses a two year budget, seeing many advantages and no disadvantages.

PILOT LOSS

QUESTION: The Navy has been losing 175 pilots a month. Why?

ANSWER: While Navy pilot losses are up, the Navy is not losing 175 pilots a month. In FY-84, 276 pilots separated from the service, representing an average monthly loss of 23 pilots. In FY-85, the Navy is projected to lose 520 pilots, based on actual losses through March 85, and letters requesting separation through the end of the fiscal year. These losses average 44 per month. The Navy pilot represents a highly trained and proven personnel

resource not only to the airline industry but to other industries as well. With airline expansion and a strong economy, the demand for these officers is high and industry is actively recruiting them. Considering the inherent hardships of the naval service involving arduous deployments and extensive family separation, the alternatives of civilian employment with potentially equal or greater earnings and family stability become a large draw on our young pilots. Another significant factor is the decrease in value of the very successful AACP program. Inflation and other items have acted to reduce the benefit derived. While this program proved successful in the past it needs to be increased significantly to continue to retain aviators.

QUESTION: How is this loss affecting readiness?

ANSWER: The pilot losses we are experiencing today are currently not adversely affecting fleet readiness. The impact is being felt primarily in the shore establishment. In the longer term, if the losses are not arrested, readiness will suffer as the training command instructor billets will go unfilled and limit our ability to adequately train the required numbers of first tour pilots.

QUESTION: It has been reported that the Navy is offering \$36,000 bonuses to pilots who reenlist. Why are bonuses this large necessary to persuade pilots to stay in the Navy?

ANSWER: As authorized by Congress in FY-84, Aviation Officer Continuation Pay consists of a flat payment rate of \$4,000 per year for a three-year contract and \$6,000 per year for a four or six-year contract. The bonus was applied at an anniversary payment rate in 1984 and ultimately resulted a gross dollar amount of either \$12,000, \$24,000 or \$36,000 over the course of the service obligation. The overall value of the bonus, however, is decremented by an Aviation Career Incentive Pay (ACIP) reduction of \$94 a month and a tax deduction of approximately 20% resulting in a net gain to the individual of only \$3,672 annually for a four or six-year contract. The net gain for a three-year service obligation is only \$2,072 annually. Additionally, acceptance of a bonus contract results in loss of entitlement to Hazardous Duty Incentive Pay (HDIP) resulting in a further pay degradation of \$110 per month for those aviators who would otherwise be eligible for this pay. The FY-84 AACP program had a 55% acceptance rate, considerably lower than the 85% realized in FY-81/82. Of particular concern was an acceptance rate of only 44% among TACAIR pilots where shortages are particularly acute. The FY-85 bonus program is being applied to those aviators in principally sea-based communities and contains the same restrictions as the FY-84 program. Recognizing the continued draw of the airlines and industry on our pilots, the decision was made to enhance the drawing power of the bonus by providing a lump sum payment alternative to the TACAIR pilots with the remaining eligible aviators being able to participate at the anniversary payment rate. Positive and immediate action was necessary to moderate the loss of TACAIR pilots if we are to avoid the readiness difficulties of the late 70's.

QUESTION: Some Navy pilots have indicated that current training practices are not realistic enough. For instance, they say they are not permitted to fly lower than 500 feet and that this renders this training unrealistic. Would you comment on this criticism of Navy pilot training?

ANSWER: Every effort is made to ensure that all training practices are as realistic as possible under existing conditions and environments. The realism is tempered at times by federal aviation regulations, the safety envelope of the aircraft, weather conditions and the experience level of the pilot. Training evolutions such as low level navigation and low altitude weapons delivery are conducted as low as 200 feet above ground level and lower where pilot proficiency enables.

NEW JERSEY

QUESTION: It has been reported that the guns on the battleship NEW JERSEY are not accurate based on the Lebanon engagement. Are these reports true?

ANSWER: No. Off Lebanon, USS NEW JERSEY's mission was to silence hostile artillery batteries. Despite the lack of forward spotters, NEW JERSEY performed her mission superbly -- every time her 16-inch guns were employed the hostile fire ceased and did not resume from the target area. Accuracy demonstrations of the current powder and projectiles demonstrated thorough coverage of the target area with more than half the rounds falling within a circle whose radius was less than 8-tenths of one percent of the range. For example, at a range of 36 thousand yards (18 nautical miles), more than one-half the rounds fell on the target and within a 275 yard circle.

QUESTION: The battleship's guns utilize rounds left over from World War II. How do these aged rounds affect accuracy and efficiency?

ANSWER: The 16-inch ammunition is very reliable, although much of it is over 30 years old. While older powder may experience some decay, the result is a minor change in ballistic performance which is taken into consideration. These powders are closely inspected, tested and shipped in controlled lots. As part of every fire mission, Navy fire control computers compensate for the effects of powder aging by lot, as well as other variables -- temperature, wind, motion. Actual naval gunfire support qualification firings conducted by NEW JERSEY have proven this ammunition reliable and suitable for use. Since late 1983 we have been bagging our older 16-inch/45 powder which has been stored in bulk reserve. This powder is ballistically superior to the 16-inch/50 powder that was originally manufactured for the IOWA class battleships. Using strict quality control, we have achieved a significant improvement over design performance. We have also upgraded some of our 16-inch projectiles with modern fuzes and components. This ammunition was most recently tested by USS IOWA last July, demonstrating the devastating accuracy and effectiveness of the 16-inch guns. If the Navy were to manufacture 16-inch ammunition today, it is unlikely that we would be able to achieve improved performance over the ammunition we now have.

M-1 Tank

Senator Sasser: Does the Marine Corps plan to procure M-1 tanks?

General Kelley: The Marine Corps has approved the M1A1 for service use and procurement.

Senator Sasser: Concern has been expressed that the M-1 engine might not be durable enough to withstand salt water during amphibious landings. What is the Marine's view of this issue?

General Kelley: The M-1 engine is suitable for Marine Corps use based on Marine Corps-unique testing.

Marine RPV's

Senator Sasser: Are any funds requested by the Marines for remotely piloted vehicles in FY86?

General Kelley: The Navy and the Marine Corps have formed a Joint Program Office (JPO), with the Navy as the Executive Service, to manage a program for the acquisition of remotely piloted vehicles (RPV's). Marine Corps RDT&E funds will be furnished to the Navy/Marine Corps JPO as the Marine Corps' share of systems development and testing costs. For FY86, the Marine Corps RDT&E RPV budget amount is \$3.467M.

The Marine Corps' acquisition strategy to attain a 1989 IOC for a target acquisition, battlefield surveillance, and radio relay RPV calls for:

- acquiring an "off-the-shelf" system for these missions
- minimizing logistical and vehicular support requirements for this system
- subsequent development of modular sensor packages for additional missions that might be identified.

Senator Sasser: It has been reported that the Marine Corps has rejected the Army's Aquila RPV. Is that correct?

General Kelley: In FY84, the Marine Corps' RPV program was zeroed with restrictive language requiring the Marine Corps to re-evaluate the U.S. Army Aquila program. At that time, the Aquila RPV was re-evaluated against the stated Marine Corps requirements. The results of the analysis revealed that Aquila does not satisfy Marine Corps requirements for a rugged, reliable system requiring minimum logistic and vehicular support for operation. In addition to having an excessive logistic and vehicular support requirement, Aquila is a very expensive system.

Senator Sasser: What deficiencies in this system led the Marines to this decision?

General Kelley: The results of a 1984 Center for Naval Analysis (CNA) study of the Aquila revealed that the current Aquila platoon (14 RPV's) mobility requirements called for:

- 22, 5-ton trucks
- 8, 5/4-ton trucks
- 5, 30-kw generators
- 5, 10-kw generators

This resulted in a platoon airlift requirement of eight C-5's, sixteen C-141's, or thirty-two C-130's.

Manpower requirements are high due to the number of vehicles

and subsystems that comprise the Aquila RPV system. Even the now defunct Army Lightweight Aquila initiative offered no significant reduction in either manpower or logistic burdens over the Aquila. Additionally, a shipboard launch and recovery capability has not been demonstrated. In essence, the cost of the system and its inherent logistic and manpower burden rendered it unsuitable for the Marine Corps.

AEGIS CRUISER

\$2.8 billion is requested for construction of three AEGIS Cruisers.

QUESTION: What is the AEGIS mission?

ANSWER: AEGIS Cruisers are designed to destroy enemy aircraft, missiles, submarines and surface ships in order to prohibit the employment of such forces against U.S. forces.

The AEGIS Destroyer must be able to operate defensively and offensively as units of carrier battle groups and surface action groups and in support of underway replenishment groups and the Marine amphibious force in multithreat environments that include air, surface, and subsurface threats.

QUESTION: How many have been approved by Congress to date?

ANSWER: Sixteen AEGIS Cruisers and one AEGIS Destroyer have been appropriated through FY85. This budget requests appropriation of three CG-47's.

QUESTION: How many does the total plan call for?

ANSWER: The current plan calls for at least 27 AEGIS Cruisers and 29 AEGIS Destroyers.

QUESTION: The AEGIS Cruiser has previously been criticized as falling short of operational specifications. Is the Navy satisfied that this system will measure up to its wartime requirements?

ANSWER: Absolutely. The AEGIS system has undergone nearly ten years of developmental and operational tests at sea and ashore. This equates to approximately 40,000 hours of system operation ashore and nearly 70,000 hours at sea. USS TICONDEROGA, the lead cruiser of the class, has fired nearly 100 missiles in stringent at-sea testing environments, including intensive electronic jamming and chaff. Hundreds of manned aircraft have been flown against the ship representing threats over a wide range of speeds and altitudes. AEGIS has beaten them all. The real test came last year off the coast of Lebanon. USS TICONDEROGA's performance was even better than expected. In fact the anti-air warfare commander noted, "the unique capability of the AEGIS system allowed TICONDEROGA to manage the air surveillance situation instead of just reacting to it." Most recently another series of operational tests was conducted. Here again, TICONDEROGA's performance was second to none as she destroyed numerous missiles representing all known attack profiles, including very low flying sea-skimmer presentations. Commander, Operational Test and Evaluation Force reported her performance saying, "TICONDEROGA demonstrated formidable warfare capability under threat test environments that would have overwhelmed any other ship in the fleet today."

QUESTION: It is my understanding that an EXOCET missile has never been tested against the AEGIS system. As we have seen, the EXOCET in the hands of third - world countries represents a serious threat to surface ships. Why then have we failed to test our new AEGIS system against the EXOCET?

ANSWER: The AEGIS System has not been tested against the French EXOCET, but U.S. targets replicating EXOCET and other third world missile profiles have been flown against AEGIS and have been engaged and destroyed by STANDARD Missiles. The most recent series of operational tests performed on TICONDEROGA in 1984 included two "EXOCET like" targets. Both were complicated by intense countermeasures-electronic and mechanical. The first was fired at a notional Battle Group, while the second was fired directly at TICONDEROGA. Both were detected, tracked, engaged, and killed with STANDARD missiles.

Beside the AEGIS Weapon System MK-7, individual AEGIS ships have several layers of defense which can go into operation in the event of missile attack. For example, at the mid-layer range the SLQ-32 V(3), Active/Passive Electronic Warfare System. This system has the capability to detect and jam an incoming EXOCET. At the inner layer is the PHALANX Close In Weapon System. In recent operational tests, PHALANX destroyed numerous EXOCETs in an impressive fashion.

Finally, AEGIS ships do not act alone. They most frequently will be deployed with Aircraft Carrier Battle Groups - here the full range of Battle Group weapons - including the Carriers' airplanes will be brought to bear on any cruise missile attack.

SUBCOMMITTEE RECESS

Senator STEVENS. Thank you very much. The hearing will recess.
[Whereupon, at 12:20 p.m., Thursday, March 7, the subcommittee
was recessed, to reconvene at 2 p.m., the same day.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1986

TUESDAY, MARCH 26, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, McClure, Andrews, Rudman, Proxmire, Johnston, and Sasser.

DEPARTMENT OF DEFENSE

UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING
STATEMENT OF HON. JAMES P. WADE, ACTING UNDER SECRETARY OF
DEFENSE FOR RESEARCH AND ENGINEERING

OVERVIEW OF RESEARCH, DEVELOPMENT, AND ACQUISITION ACTIVITIES

OPENING STATEMENT OF SENATOR STEVENS

Senator STEVENS. Good morning.

We are here today to continue the Defense Subcommittee's review of the fiscal year 1986 Defense budget. This hearing is to conduct an overview of the Department of Defense research and development program for fiscal year 1986. Research and development now comprises some 12½ percent of the Department's budget.

BUDGET REQUEST

The \$39.3 billion requested for fiscal year 1986 is up by approximately 26 percent from the fiscal year 1985 appropriation for RDT&E, for real growth of more than 20 percent. The Department of Defense estimates that the real growth in the R&D accounts for nearly 38 percent of the total real growth in the fiscal year 1986 defense budget request.

Today's hearing is focused in the fiscal year 1986 budget request, the recent reorganization of the Office of the Under Secretary of Defense for Research and Engineering, and joint service programs.

Before starting, I would like to note that in the past we have occasionally found it necessary to close the hearing to cover classified material. We hope this will not be necessary this morning. If it is necessary to go into such matters, we will schedule another hearing.

INTRODUCTION OF WITNESSES

Today we are pleased to hear testimony from Dr. James P. Wade, Acting Under Secretary of Defense for Research and Engineering.

Dr. Wade, we welcome you to the hearing this morning. Again, Dr. Wade, we apologize. We had another item that required a classified briefing in another portion of the Capitol and we were unfortunately delayed.

COMPARATIVE SUMMARY TABLE

For the record, I would like the Department to insert a comparative summary of the research and development appropriations and budget authority and the associated outlays similar to those in the back of your statement for total obligational authority. We would also request a 10-year history of R&D real growth for the record.

[The table follows:]

COMPARATIVE SUMMARY

The following are summary R&D budget authority tables by Component, Budget Activity, and R&D Category. In addition, there is a RDT&E outlay summary by Component and a ten-year history of real growth in research and development.

RDT&E By Component
Budget Authority (\$ in Millions)
FY 1986 Budget Estimate

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
Army	4,202.2	4,376.1	5,279.9
Navy	7,586.3	9,274.1	11,264.3
Air Force	12,257.7	13,506.3	15,578.5
Def. Agencies	2,771.4	4,248.2	7,053.9
Def. T&E	49.0	59.0	103.5
Total	26,866.6	31,463.8	39,280.1

RDT&E By Budget Activity
Budget Authority (\$ in Millions)
FY 1986 Budget Estimate

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
Tech. Base	3,055.0	3,121.0	3,525.1
Adv. Tech. Dev.	1,352.2	2,765.8	5,461.3
Strategic Prog.	7,877.7	8,367.7	8,555.6
Tactical Prog.	7,878.9	9,498.2	12,395.2
Intell. & Comm.	3,406.0	3,959.8	5,031.1
Defensewide			
Mission Spt.	3,296.8	3,751.2	4,311.8
Total	26,866.6	31,463.8	39,280.1

RDT&E By R&D Category
Budget Authority (\$ in Millions)
FY 1986 Budget Estimate

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
Research	843.0	860.8	970.8
Exploratory Dev.	2,212.0	2,260.9	2,556.3
Adv. Dev.	5,936.9	6,837.1	11,682.8
Engr. Dev.	9,148.0	10,916.8	10,747.4
Mgt. & Support	2,385.1	2,435.8	2,743.7
Op. Sys. Dev.	6,341.6	8,152.4	10,580.1
Total	26,866.6	31,463.8	39,280.1

RDT&E By Component
Outlays (\$ in Millions)
FY 1986 Budget Estimate

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
Army	3,812.3	4,094.6	4,728.9
Navy	6,661.7	8,251.4	10,001.5
Air Force	10,353.3	12,215.0	14,076.3
Def. Agencies	2,234.6	3,171.5	5,111.9
Dir., T&E	54.7	53.3	69.3
Total	23,116.7	27,785.8	33,987.9

Department of Defense
(\$ in Millions)
Constant FY 1986 Dollars

	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
RDT&E	17,973	18,196	18,360	18,203	20,448
Real Growth	+3.2	+1.2	+1	-.1	+12.3
	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>
RDT&E	23,356	25,567	29,056	32,717	39,280
Real Growth	+14.2	+9.5	+13.6	+12.6	+20.1

FISCAL 1986 RDT&E PROGRAM

Senator STEVENS. Dr. Wade, we will place your full statement in the record and welcome any additional comments and summary of your formal statement, after which we will have the question and answer period.

First, let me ask if Senator Proxmire has any questions?

Senator PROXMIRE. No, thank you, Mr. Chairman.

Senator STEVENS. Again we apologize.

Senator McClure.

Senator McCLURE. No questions.

Senator STEVENS. Please proceed.

Dr. WADE. Thank you, Mr. Chairman and members of the committee.

I am certainly pleased to be with you once again to discuss our fiscal year 1986 RDT&E program. I would like to take a few minutes to offer my personal summary of some of the highlights of our program, and then answer any questions which the committee may have.

READINESS

First of all, let me begin by stating that, in my personal judgment, our forces today are more ready and better equipped for sustained combat than at any time in recent history. We are, in addition, on the right path to gain the technological edge needed to achieve adequate combat effectiveness for the future.

Our emerging technologies, with which we are all familiar, contain a potential for introducing revolutionary changes to the conventional balance, and these changes could occur over the next decade.

As such, the high quality, and the high leverage application of our advanced technology minimize the need for higher quantities of platforms, and also offers the potential to minimize the number of casualties in combat.

QUALITY OF MODERNIZATION EFFORT

An essential and additional point is that the keystone of our modernization effort is based upon quality. In order to build and maintain an effective deterrent force, one which is capable of assuring a favorable outcome in case deterrence fails, we need to have high quality weapon systems which provide high-leverage up-front combat potential against our potential adversaries.

In line with this requirement and just as important, the high quality people who today make up our Armed Forces can better utilize our advanced technology systems. Indeed, in my judgment, our people deserve nothing less. Again, quality must be designed and built into our system from the beginning.

QUALITY AND EXECUTION OF RDT&E

Quality and execution of our RDT&E and acquisition programs will be the major theme of our management attention in the next 4 years. We are indeed, in this light, further consolidating our activities and management initiatives concerning quality and productivi-

ty enhancement into a new program, entitled the "Defense Industries Quality Excellence Program."

Our intent is to ensure that quality and productivity are bywords from the design stage through production and support of all of our programs.

COOPERATION WITH ALLIES AND GOVERNMENT

Equally important is that we remain committed to improved international cooperation with our allies and our friends concerning standardization and interoperability and are seeking to accelerate the progress we have made thus far, particularly in the area of our emerging technologies.

Proper understanding of the role of Government and the role of industry is crucial in this regard. Much of our progress has been achieved because of the substantial reforms in DOD investment policy which could not have been implemented without the full endorsement and support of the Congress, and particularly, of this Committee.

We are, therefore, seeking from the Congress your support for the fiscal year 1986 RDT&E of \$39.3 billion and as part of this continued support the achieving of the affordability and the attending benefits from our acquisition improvement program.

SCIENCE AND TECHNOLOGY PROGRAM

Let me speak for a few minutes on the programs themselves and let me start, first of all, with our Science and Technology [S&T] Program.

We must indeed provide the technology foundation for those weapon systems that will be needed in the 1990's and through the next century. We are requesting a real growth in our technical base of 9 percent, that is, our Basic Research (6.1) and Exploratory Development (6.2) Programs.

Our S&T goals and options, and the prevention of technological surprise, are important ingredients of our overall modernization program. In this regard, I would like to point out that the DOD has proposed a new program, termed the "University Research Initiative" budgeted for \$25 million in 1986 to strengthen university research, the academic communities' own science and technology base and infrastructure, and to promote stronger interactions between DOD laboratories and university researchers. We would like to see a further increase in this program in the out years.

The very High Speed Integrated Circuit [VHSIC] Programs purpose is to develop state-of-the-art integrated circuits meeting requirements of our future military weapons systems. As you appreciate, this program is indeed our first priority S&T program. Also receiving high priority are our initiatives in computers, communications—in their broadest context—and sensor technologies. The foundation of our new initiatives is to revolutionize the current state of the conventional balance in our favor and to maintain this leverage over the next 10 years.

CONVENTIONAL INITIATIVES

Let me provide a few remarks on our conventional initiatives—new technologies that are currently in our program—which can provide our air/land battle forces with new major force multiplier systems for defeating armored attacks in the future. Our focus here is toward technology that will be able to expand the battlefield, and to locate and track stationary and moving targets at distances of hundreds of kilometers. There should, indeed, be no safe haven and there will be none on the battlefield of the future.

INTELLIGENCE AND FIRE CONTROL

A second aspect is intelligence and fire control information from multiple sources to be processed by automated systems and distributed to tactical commanders for targeting decisions. We must be able to get inside the Soviet timeliness and use this to our advantage.

Targets will be attacked by aircraft and ground-launched missiles—in day and night, in all types of weather with a variety of munitions, which will improve over time, including terminally dispensed lethal submunitions armed to hit to kill.

We are, in this regard, determined to successfully deploy these new systems. These new systems are the results of our work over the last several years at the top level of the services and our allies. I would note in this regard, that this capability will increase proportionally the nuclear threshold.

STRATEGIC NUCLEAR ARSENAL

Insofar as our strategic program, the backbone of American military deterrent policy, our so-called strategic nuclear arsenal remains and will remain the highest priority in the foreseeable future.

In this regard, in my judgment, the greatest challenge facing our strategic programs is maintaining our country's will and to stay the course in fully modernizing these programs and equally important maintaining the key technology push toward the goal of SDI, the strategic defense initiative.

JOINT PROGRAMS

Let me off some comments at this time on our joint programs. A priority concern of the Department of Defense and the Congress, as you noted, Mr. Chairman, for several years has been to enhance the effectiveness, the economy and the efficiency in program and program management activities involving more than one service.

Making joint programs happen and succeed takes a concerted effort by both the Defense Department and the Congress working together. The search for opportunities in establishing joint service programs includes surveying multi-service mission requirements—those requirements which involve common functions or related threats—and integrating our requirements to get more efficiency in our operational capability and higher production rates in our acquisition process.

Over the past year the Army and the Air Force developed a list of 31 joint initiatives to provide an increased combat capability at reduced cost. These initiatives included an agreement on the platform and the operational concept of the Joint Surveillance and Target Attack Radar System and the development of a complementary family weapons.

This past year our movement forward in this regard is strengthened by the fact that the Joint Chiefs of Staff have also undertaken a significant initiative to achieve these goals.

INTERNATIONAL ARMAMENTS COOPERATION

Finally, some comments on our international armaments cooperation. Our activities focus in the main on NATO, but involve many other countries with whom we share security interests.

Since 1957, there have been over 200 activities in the form of bilaterals, and multilateral codevelopment, coproduction, and licensed production agreements. Many of these projects have successfully achieved a measure of improve standardization and interoperability. International cooperation is indeed possible.

Much of the regional industrial infrastructure is already in place. Clear and unambiguous Government support for arms cooperation is essential. We need to provide better progress in this regard, and we will be accelerating our efforts over the next several years.

The bottomline in this case, Mr. Chairman, is that the United States must indeed share our technologies to make the emerging technology initiatives succeed. But the technology that is shared must be protected from compromise through strengthened safeguards on technology transfer.

Mr. Chairman, this concludes my summary comment. I look forward to your questions.

[The prepared statement of Dr. Wade follows:]

PREPARED STATEMENT OF HON. JAMES P. WADE

ACTING UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

INTRODUCTION AND OVERVIEW

THE FY 1986 RD&A PROGRAM

Introduction

The FY 1986 budget request for research, development and acquisition is aimed at sustaining this Administration's four-year effort to strengthen national security by turning management and technological accomplishments into real force modernization achievements. Four years ago, we recognized and accepted the challenge of rebuilding America's defenses. Our capability to deter aggression in the future was jeopardized by obsolescent equipment and facilities, and an aging inventory of weapons and weapon systems. Serious deficiencies included dangerously low stocks of ammunition and spare parts, which impacted our readiness to carry out national policies.

Today, our defenses are more ready and better equipped for sustained combat, and we are better able to deter aggression. We are also maintaining the technological edge needed to achieve the combat effectiveness which can somewhat offset the numerical superiority of the Soviet Union's forces and those of its clients and surrogates.

Much of this progress has been achieved because of substantial reforms in DoD acquisition policy which could not have been implemented without the endorsement of the Congress. We are therefore seeking not only your support of the FY 1986 RD&A budget request of \$146 billion, but your continued help in achieving the affordability and responsiveness benefits of these reforms.

Program Basis

National security policy emphasizes deterrence of aggression and requires decisive means to counter threats to the interests of the U.S. and our allies throughout the complex and changing world. In developing the FY 1986 RD&A program, we assessed four dominant factors in the context of this policy. These factors are:

- o The need to sustain the rebuilding effort initiated four years ago and thereby increase deterrence, reinforce our coalition defenses and increase the likelihood of peaceful relations among nations and negotiated arms reductions.
- o The unrelenting efforts of the Soviet Union to upgrade their deployed military technology, to expand their mission capabilities far beyond any reasonable requirements for homeland defense, and to exacerbate political instabilities world-wide.
- o The number, variety and complexity of on-going and potential low-intensity conflicts, which must be dealt with decisively and swiftly to minimize the risks of escalation and to discourage terrorism.
- o The need to provide future options for addressing existing mission needs and alternative approaches for meeting national security requirements, and to anticipate future threats.

Associated with any executable program which addresses these factors are a set of risks. The projects and acquisition efforts embodied in the FY 1986 RD&A budget request are the result of a comprehensive and in-depth planning and programming effort to balance these risks. One dimension of this balancing effort addresses our needs for readiness, sustainability and force structure together with our needs for modernization. Another dimension reflects the fact that we do not structure our peacetime forces to achieve a stand-alone capability to meet the direct and indirect threats of Soviet aggression, and the request therefore addresses the needs to assure alliance cohesion and the capability of our forces to operate effectively both jointly and in combination with the forces of our allies. Ultimately, however, development of the DoD RD&A program entails a balance of risks across the spectrum of conflict and of the priorities assigned to the forces--strategic, theater, maritime, rapidly deployable and special operations--which exist to mitigate these risks.

To cope with these formidable challenges, this Administration has accomplished, and has underway, substantial changes in the planning, programmatic, and acquisition decision processes. These changes have sharpened our perception of the needs of the force commanders and of the special problems of each region and mission area. We have also taken steps to strengthen the defense industrial base in its capability to produce the materiel, equipment and systems we need at affordable costs; to enhance responsiveness of the industrial base in crisis and conflict situations; and to encourage pre-planned product improvement and life-cycle extension techniques which can enhance readiness as well as affordability.

MODERNIZATION CHALLENGE

An integral element of the planning and programming process is assessment of near-term and future risks, with the aim of choosing an investment strategy which keeps these risks in balance and at an acceptable level. Such an assessment must take into account the threats being posed by the Soviet Union and its Warsaw Pact (WP) allies, and the Third World nations and entities that serve as extensions of or surrogates for Soviet military power. This assessment also calls for delineation of trends and directions of change in those threats. What follows is a brief summary of some major indicators used in the assessment; more detailed treatments are provided in later chapters.

Aggregate Measures

Soviet defense investment has been steadily increasing for many decades and has exceeded the annual U.S. defense investment since 1971. Also of note is that on 28 November 1984 the Supreme Soviet met and approved a 12% increase in Soviet military spending. While we do not believe the budget figures released by the Soviets even come close to reflecting what the Soviets spend on military forces, we do believe they are signaling an increase in their military spending.

As was noted last year, the estimated dollar cost of Soviet military RDT&E and procurement activities has exceeded our outlays for similar activities for more than a decade.

This situation is a consequence of steady real growth in Soviet RDT&E activities of about seven percent per year for the last two decades (doubling every ten years), and is a compelling indicator of the Soviet commitment and priority for a strong military RDT&E program. The overall impact of the Soviet effort is that they are creating a number of future options for exploiting technological advances across a wide range of military missions, including options for new mission capabilities. This condition intensifies our need to assure both a sustained modernization effort and a strong defense technology base to assure an acceptable balance of near and long term risks to national security. Our prospects for achieving such a balance are enhanced in part by our strong commercial technology base, which has helped alleviate the asymmetry in expenditures for military research and development.

Production Balance

Production capability is crucial to development and execution of our overall investment strategy. The modernization competition between the free world and the Soviet Union involves factories as much as laboratories.

The challenge presented by the threat of the Warsaw Pact military industrial base and the growing Soviet military RDT&E program has several dimensions. First, the Soviet military acquisition effort is characterized by the highest national priority, centralized planning and multi-year resource allocation process, and long range stability. High production rates and routine use of evolutionary approaches for improving systems in parallel with the development of new systems are also characteristic of the effort and provide steadily improving military capability. Coordination of the Warsaw Pact efforts also entail far less negotiation than for the NATO alliance.

However, weaknesses of the Soviet acquisition program stem from three inter-related factors: the Soviets are constrained from taking advantage of the competitive processes and commercial incentives available to free-enterprise economies; they depend frequently on free-world accomplishments to point the way for high-technology advances; and their priorities and penchant

for secrecy hinder application of scientific advances resulting in a relatively weak civil technology base.

The Soviet and Warsaw Pact production base provides a flow of equipment, weapon systems and munitions which is enormous, and has enabled them to supply modern weapons in substantial quantities to many Third World nations as well as sustaining an impressive modernization effort for their own forces and supporting their combat operations in Afghanistan. Table I-1 compares 1984 NATO/WP production of general purpose force systems and weapons. In the category of land combat, the Warsaw Pact production figures substantially exceed those of NATO. These are estimates of current production only and are representative of present industrial activity. They do not represent total capacity which is higher.

This production differential permits the USSR to export major quantities of some systems to the Third World and still add new production to the Warsaw Pact forces at a rate greater than NATO's total production. For example, in the Land Combat category, the Warsaw Pact produced almost 13,000 tanks, other armored vehicles and artillery pieces in 1984. The rate of delivery of items in this category to the Third World has remained high. Despite this the Warsaw Pact retained an estimated addition to their forces of almost 12,000 systems, which substantially exceeds NATO's total production of about 6,000 units.

Table I-1. COMPARISON OF NATO AND WARSAW PACT MAJOR TACTICAL WEAPONS PRODUCTION IN 1984*

CATEGORY	NATO			WP		
	For Own Forces	Other	Total Production	For Own Forces	Other	Total Production
LAND COMBAT						
Tanks	1520	50	1570	3300	450	3750
Other Armored Vehicles	2300	1000	3300	4575	425	5000
Field Artillery	460	440	900	3850	200	4050
TACTICAL AIR						
Fixed Wing**	640	235	875	690	385	1075
Helicopters	495	205	700	650	150	800
MARITIME FORCES						
Major Surface Combatants	17	6	23	10	2	12
Amphibious Ships	0	2	2	1	0	1
Attack Submarines	8	3	11	6	0	6

*Includes exports

**Includes all interceptors

Technology

Modernization involves providing improved weapon systems that can function in an effective manner in future combat environments. The foundation for this is the Science and Technology (S&T) program. The S&T program is the source of knowledge and technology that create the system options for the future.

We are now fielding systems using technologies developed during the 1960s. We must now provide the technology foundation for those weapon systems that will be needed in the 1990s and the next century. To this end, DoD conducts a strong and viable S&T program ranging from long-term basic research efforts to large feasibility demonstrations. It is our goal that this program will provide the systems needed by future commanders to accomplish their military missions.

As reported elsewhere in this statement, the Soviets are maintaining a large and aggressive military R&D program. The products of their effort are of concern to this country. The S&T program, in addition to providing us weapons options, prevents our forces from being surprised by technological innovations and enables us to react quickly when necessary. Our S&T goals, S&T options and the prevention of technological surprise, are important ingredients of the overall modernization program.

Industrial Base

The defense industrial base provides the means for meeting our alliance commitments in times of crisis and conflict. This industrial base derives its strength from the competitive economic environment of the free-world, and our leadership position must be sustained. That strength must be increased by maintaining affordability and manufacturing technology initiatives, and achieving surge capabilities for selected mission-oriented programs to complement stockpiling. DoD investments in manufacturing technology not only generates cost savings, but also contribute to a stronger sustainability because we are creating a stronger industrial base with reduced production lead times.

ORGANIZATION AND MANAGEMENT

This Administration has taken steps to assure that our defense acquisition system is strengthened and that its efficiency, responsiveness and productivity are improved.

Organizational Changes

Over the past four years, we have revised the planning process and the decision-making structure for implementing the results of that process. We have an integrated management structure for addressing key dimensions of the RD&A process: weapon systems acquisition, the technology base, and force management and support capabilities. Recently a reorganization has been announced which will further streamline the management of acquisition, logistics and command, control, communications and intelligence (C³I). An Assistant Secretary of Defense for Acquisition and Logistics will be established. This will bring under a single executive the responsibility for managing weapons system procurement, along with supporting facilities, systems and other physical resources. The responsibilities of the Assistant Secretary of Defense (C³I) will be broadened by combining C³I policy and resources under one office. Both of these ASDs will report directly to the Secretary of Defense.

In parallel, the DoD has improved, through procedural changes, the annual program review. The review has been strengthened in terms of Service involvement, and procedures have been implemented to assure that an adequate perspective of senior military commanders' needs and concerns are available during both the planning and programming phases of the acquisition process.

The concerns of the Congress regarding needs to reinforce our operational test and evaluation capabilities have been addressed by the establishment of an independent directorate reporting to the Secretary of Defense. By serving as a member of the Defense Resources Board, the Director of Operational Test and Evaluation brings to the decision-making process a perspective on the readiness of new developments for operational use.

A Joint Tactical Command, Control and Communications Agency (JTCC³A) has been established to integrate architectural efforts and to ensure interoperability of C³ systems needed to support joint and combined operations. This Agency subsumed the functions of the Joint Tactical Communications Office (TRI-TAC) and the Joint Interoperability of Tactical Command and Control Systems Program Office, both of which were under the cognizance of the Department of the Army. These offices were disestablished.

Resource allocation for conventional munitions acquisition is a crucial element in balancing our efforts for improved readiness and sustainability. The importance of integrated planning for munitions acquisition was recognized by the establishment of a Munitions Council. The Council serves as a forum for the Joint Chiefs of Staff and senior members of the Services and the Office of the Secretary of Defense to assess options for attaining an effective and affordable mix of modern munitions in adequate quantities.

The aforementioned changes should contribute to a more efficient R&D process shortening the time it takes to field new systems and result in more cost effective procurement of end items as well as spare parts.

Management Initiatives

We have established the DoD Council on Integrity and Management Improvement. This is a team effort for implementing the Defense Acquisition Improvement Program (DAIP) announced by the Deputy Secretary of Defense in April of 1981. Currently the DAIP focuses on securing more leverage from our acquisition dollars by improving quality, improving program stability, emphasizing multiyear procurement, striving for economic production rates, budgeting realistically, encouraging competitive acquisition, improving support and strengthening the industrial base.

The multiyear procurement initiative is a keystone effort because it enhances other initiatives such as program stability, economic production rates, realistic budgeting, and strengthening the industrial base. Congress approved 32 of 50 programs proposed for multiyear procurement and we estimate the multiyear savings from these 32 programs to be \$4.0 billion. Savings from previously budgeted multiyear programs reduced FY 1986 total obligational authority requirements by about \$2.0 billion.

Multiyear procurement, however, has not solved the difficulties we have experienced with program instability. Reductions of over \$100 billion below procurement projections since 1981 have required that many important programs continue to be stretched out to accommodate near-term budget constraints which causes increased unit costs.

Our acquisition initiatives on tailoring requirements documents, has resulted in systematic reviews of requirements, related drawings and specifications for new weapon systems. These reviews serve the purpose of challenging over-specified or otherwise uneconomical requirements, and thereby reduce cost. Management actions by the Services and the Defense Logistics Agency will extend this concept to the procurement of material required in support of deployed systems. These efforts will reinforce our Defense Standardization and Specification Program and support detailed engineering reviews of technical requirements for material identified as either questionably priced or over-priced. This initiative serves to encourage competition and other price-challenging activities mentioned earlier.

Joint Programs

A priority concern of the DoD and the Congress for several years has been to enhance effectiveness, economy, and efficiency in program and management activities involving more than one Service. This year's RD&A budget request reflects explicit actions by DoD to address these concerns by focusing on the stability and management of joint programs.

Making joint programs happen and succeed takes a concerted effort by both the DoD and the Congress. We need to initiate actions which enhance affordability as well as meeting interoperability requirements and improving logistical efficiency. The search for opportunities includes surveying multi-Service mission requirements for those which involve common functions or related threats; breaking down unnecessary differences in requirements or specifications which can inhibit best use of the technology base; and integrating requirements to get more economical production rates, enhancing opportunities for competitive acquisition, and developing a simplified training and logistical support base.

The Joint Chiefs of Staff have taken a significant initiative to achieve these goals. In response to a recommendation by the 1983 Defense Science Board Summer Study on Joint Service Acquisition Programs, the JCS established the Joint Requirements and Management Board (JRMB). The JRMB is charged with examining potential joint military requirements and recommending candidates for joint development, and resolving Service requirement issues that may arise after joint programs are initiated.

Quality and Productivity

During the past four years, we have placed particular emphasis on repairing the programmatic effects of the period of neglect which preceded this Administration. Inventories for almost every major weapon system are up over projected totals from the prior Administration. At the same time, we have endeavored to put new programs into place which are necessary to meet the evolving Soviet threat. The B-1B bomber and the Strategic Defense Initiative are important examples.

We must now shift emphasis to insure that we protect the investments we have made and make certain they reach fruition in the most economical way possible. Greater emphasis will be placed on quality and productivity during the near-term in order to achieve our long-term requirements for reliability and cost-effectiveness. We are committed to improving the quality of the products we buy, and are taking the necessary management steps to do so.

Quality is a broad subject and requires a comprehensive approach to insure that it is achieved. As a result of our review of critical quality areas such as materials, capital, and human resources, we have integrated ongoing efforts with new initiatives into a ten point program called the Defense Industries Quality Excellence Program. This program will serve as the focus of our efforts to improve quality and productivity in defense acquisition. The Ten Point Program is described in detail in Section III.

Production Initiatives

A major adjunct to our management program has been increased emphasis on production matters. The major source of acquisition risk, cost escalation, schedule slippage, and failures in service emanate from failure to execute an efficient transition from development to production. We have a concerted production management effort underway which is aimed at assuring our systems make an efficient transition between these phases while maintaining effective cost control, product quality and schedule.

Two production initiatives are in being. The first emphasizes developing a producible design during the engineering development phase. Production engineering and planning elements of work are now an integral part of the engineering design and test cycle. This integration of activities is requisite to obtaining an end item that meets its unit cost objectives as well as its functional performance requirements.

The second production initiative calls for application of fundamental engineering principles and disciplines to balance technical risks and establishes managerial techniques to assess and reduce production risks. Two new DoD directives have been issued to implement these initiatives, and a new DoD manual providing guidance on risk reduction will be published.

INTERNATIONAL COOPERATION AND TECHNOLOGY CONTROL

Armaments Cooperation

Our cooperative activities focus on NATO, but involve many other countries with whom we share security interests. Since the landmark year of 1957, in which initial agreement was achieved on NATO co-production programs, there have been over 200 activities in the form of bilateral and multilateral co-development, co-production, and licensed production projects; memoranda of understanding and family of weapons projects; dual production and industry-to-industry efforts; and outright weapons sales.

Many of these projects successfully achieved a measure of standardization and interoperability and an exchange and infusion of technology into weapons systems that has enhanced Alliance capabilities. But NATO's cooperative efforts to date have not produced that degree of weapons modernization and interoperability, equipment availability and combat readiness needed to offset the numerical superiority and increasing sophistication of the Warsaw Pact forces.

Armaments cooperation can enhance NATO's industrial base by advancing technology and high-technology skills of the labor force. It can also help members of the Alliance field force multipliers in a timely and efficient manner. This opportunity will provide tangible incentives for the Europeans to modernize their conventional force capabilities. We and the Europeans must act, to make armaments cooperation a reality. A recent Defense Science Board study of industry-to-industry armaments cooperation found that cooperation is possible--much of the regional, industrial infrastructure is already in place--but clear, unambiguous and consistent government support for arms cooperation is essential.

The Emerging Technologies initiative, endorsed by all NATO ministers, demonstrates our determination to increase NATO's conventional defense capabilities through armaments cooperation. This initiative focuses on near-

term efforts to field military equipment which would make a substantial difference in the ability of Alliance forces to repel an aggressor. A key feature of the Emerging Technologies initiative is that opportunities are provided for early entry into high technology programs. The U.S. must share technology to make the Emerging Technologies Initiative succeed, but the technology that is shared must be protected from compromise through strengthened safeguards.

We are actively pursuing cooperation with Japan and other allied and friendly nations on a bilateral basis. We are working to understand their and our needs in order to most efficiently use the resources of all. Last year an agreement was negotiated with Japan to facilitate the flow of their technology to the United States with the aim of utilizing it to meet our mutual broad-based defense mission needs. We also extended our agreement with Israel to assure continued cooperation in technology, test and acquisition.

Technology Transfer and Export Control

Technology exchange is inherent in cooperation, but controls are required to prevent Soviet gains which would negate the benefits of our cooperative efforts.

One of the Soviets' major weaknesses of the past has been their technology base, which has made it difficult for them to translate research results into high quality end items. To offset this deficiency, which has impeded their efforts to enhance their military power, the Soviets have devoted considerable financial and personnel resources to the legal and illegal acquisition of Western technology. They consider the acquisition of Western technology an effective approach for reducing the costs, risks and time involved in advancing their development and production capabilities as well as for fielding more sophisticated weapons systems.

Acquisition of the most needed and critical foreign technology is orchestrated at the highest levels of Soviet government and collection requirements are coordinated with the Soviet weapons development and production system. Numerous entities in the Soviet Union including the Soviet intelligence services (KGB and GRU) have the responsibility for collecting Western classified, unclassified export-controlled, uncontrolled and proprietary technology using overt as well as clandestine collection methods. Soviet Bloc efforts in this regard augment those of the USSR and have resulted in the Soviet Union obtaining key technology and hardware.

The USSR has also gained a great deal of Western militarily-relevant technology through legal purchases. The Warsaw Pact has shown energy and imagination in obtaining critical dual-use technologies which Eastern officials assert will be used solely for civilian purposes but which, instead, have been used to enhance military capabilities. Legal purchases have contributed significantly to the military potential of Soviet air, ground, strategic, and naval forces. For this reason, the United States, along with its allies, have been attempting to close legal methods of transfer of militarily-significant technology to the Eastern Bloc over the last several years.

However, we need to further strengthen safeguards for preventing Soviet acquisition and exploitation of our advanced Western technologies.

ACQUISITION BALANCE - MILITARY EQUIPMENT AND TECHNOLOGY

INTRODUCTION

Soviet military power is the primary military threat facing the United States today. The growth of that power represents the principal consideration in choosing the level of American defense investment. As part of the determination of our security needs we must examine the magnitude and nature of this threat. This statement includes a number of comparative measures of the trends in defense investment of the US/USSR and NATO/Warsaw Pact in programs to develop, produce and acquire military weapons.

Judgements about military adequacy are neither simple nor precise. In an effort to be comprehensible we display mostly simple, objective measures of the US/USSR and NATO/Warsaw Pact military acquisition programs such as production quantities and inventory value of weapon systems. Investment in and acquisition of modern weapons is a cornerstone of military strength, a major component of deterrence, and a significant leading indicator of the future military balance. However, the quality and quantity of weapons are important but not necessarily dominant. For example, the measures reported here do not include the economic and industrial bases; the strength and dependability of allies; the quality, training and morale of combat units; and the quality of command and leadership, all of which can be decisive.

The Soviet Union is surrounded by what it perceives as hostile states and potentially unreliable allies. The Soviet military is thus the principal instrument of domestic power as well as foreign policy and influence. This drives military planning and is the basis for a long history of buying large quantities of military weapons. For example, it is estimated that even prior to World War II, the Soviet Union had more tanks, artillery and military aircraft than the other European nations combined.

Soviet political leaders recognize the role played by technology in determining military capabilities. They therefore seek to attain and demonstrate military technological superiority over the West and have given this goal a very high priority for at least the past two decades. They have adopted the approach of acquiring Western technology as well as developing technology internally. The Soviets' commitment of resources to military procurement and research and development (R&D) has been enormous by any measure. They have steadily expanded their facilities and work force for military R&D programs. Despite such efforts the strengthening of the U.S. military R&D commitment will make it more difficult for the USSR to close existing technology gaps.

The Soviet leadership gives military R&D high funding priority, with investment growing at a rate of about 7 percent a year. Key aerospace design bureaus have shown even greater growth. The best qualified Soviet scientists and engineers are selected for military research and development. This stable and growing work force allows continuing development on a full range of military programs over long periods of time, even over several decades. The Soviet R&D and acquisition process thereby progresses and the net result is a steady flow of new, increasingly capable military weapons systems.

SOVIET WEAPONS ACQUISITION (R&D AND PROCUREMENT) PROCESS

The Soviet weapons acquisition process is substantially different from that of the U.S. The primary performers of Soviet R&D are research institutes, design bureaus, and production associations. These activities are vertically organized, which has led to activities conducted by highly specialized independent entities often isolated from each other. Military R&D has risen to where it now accounts for about half of all R&D conducted in the USSR. This compares to the roughly thirty percent of all U.S. R&D which is military.

Design bureaus are assigned to the defense industrial ministries and are critically important for technical innovation and development in the Soviet Union. Organizationally located between the research community and the separate production organizations, the design bureaus are responsible for developing new equipment embodying the best available technology consistent with system requirements and production schedules. Features of this management approach include multi-year program funding, regular product improvement and

early responsiveness to U.S. and NATO program developments. Only a small amount of basic research is performed by design bureaus.

Roughly 50 major system design bureaus are involved in the development of Soviet major weapons, space and support systems. Each Soviet organization has its own specialization(s) and continuously conducts development at the full employment level-of-effort the Soviets feel is needed to handle their long term military/space requirements. Programs are routinely initiated that keep design bureaus fully employed. U.S. contractors have more cyclical business and employment fluctuates accordingly, substantially dropping if they do not win major new contracts.

Major new Soviet systems or modernization programs take about 8-15 years to develop. This is about the same time it now takes in the U.S. The Soviets have maintained this development time despite often shifting the focus and specialities of their system designers in response to new requirements.

More than 200 major military development programs have been initiated by the 50 major Soviet design bureaus every 10 years for the past three decades. In simple terms Soviet military R&D and production reflects:

- o Strong, almost rigid, central management;
- o Priority over civil R&D and production;
- o High emphasis on producibility and production schedules;
- o Evolutionary improvements through emphasis on modification rather than totally new systems;
- o Stable design organizations and teams considered to be state assets, and funded to maintain full employment;
- o Multiyear planning and resource approval;
- o Extreme secrecy;
- o Aggressive exploitation of Western technology.

Although a large amount of technological innovation is not motivated by the Soviet system, the defense research program can be quite innovative if necessary. The Soviets have shown a tendency in recent years to undertake high risk, high gain research to seek breakthroughs in selected military technology. However, efficient utilization of existing technology in system design tends to be their forte. A list of recent notable advances is shown in Table II-1.

Table II-1. SOVIET DESIGN/TECHNOLOGICAL INNOVATIONS

- | |
|---|
| <ul style="list-style-type: none"> • Unmanned lunar rover • Fractional orbital bombardment system • Surface effect vehicles • Spaceborne nuclear power systems • Cold-launched ICBMs • Antisatellite systems • Large high-power lasers • Magnetohydrodynamic power generation • Titanium submarine hulls |
|---|

TECHNOLOGY COMPARISONS

Despite Soviet emphasis on R&D, U.S. technological accomplishments considering both the military and private sectors continue to provide us a lead in most significant technical areas. However, it is important that the U.S. continue a large and vigorous military R&D program to preclude progressive erosion of our position in deployed technology relative to the Soviets.

Table II-2 compares the 20 basic technologies that have the greatest potential for significantly improving military capabilities in the next 10 to 20 years. This table indicates that the U.S. has maintained its lead in most of the basic technologies critical to defense, although the Soviets are eroding the lead in some of the basic technologies where the U.S. now leads.

It is essential that we maintain our technological lead in order to offset somewhat the great disparity in quantity of deployed equipment. Five areas in which the U.S. has an important advantage are:

- o computers and software
- o sensors
- o signal processing
- o telecommunications
- o automated production

Table II-2. RELATIVE U.S./USSR STANDING IN THE TWENTY MOST IMPORTANT BASIC TECHNOLOGY AREAS

BASIC TECHNOLOGIES	U.S. SUPERIOR	U.S./USSR EQUAL	USSR SUPERIOR
1. AERODYNAMICS/FLUID DYNAMICS		X	
2. COMPUTERS AND SOFTWARE	← X		
3. CONVENTIONAL WARHEAD (Including all Chemical Explosives)		X	
4. DIRECTED ENERGY (Lasers)		X	
5. ELECTRO-OPTICAL SENSOR (Including Infrared)	X		
6. GUIDANCE AND NAVIGATION	X →		
7. LIFE SCIENCES (Human Factors/ Biotechnology)	X		
8. MATERIALS (Light-weight, High Strength, High Temperature)	X →		
9. MICRO-ELECTRONIC MATERIALS AND INTEGRATED CIRCUIT MANUFACTURING	X		
10. NUCLEAR WARHEAD		X	
11. OPTICS	X →		
12. POWER SOURCES (Motor) (Includes Energy Storage)		X	
13. PRODUCTION/MANUFACTURING (Includes Automated Control)	X		
14. PROPULSION (Aerospace and Ground Vehicles)	X →		
15. RADAR SENSOR	X →		
16. ROBOTICS AND MACHINE INTELLIGENCE	X		
17. SIGNAL PROCESSING	X		
18. SIGNATURE REDUCTION (Stealth)	X		
19. SUBMARINE DETECTION	X →		
20. TELECOMMUNICATIONS (Includes Fiber Optics)	X		

*1. The list is limited to 20 technologies, which in aggregate were selected with the objective of providing a valid base for comparing overall U.S. and USSR basic technology. The list is in alphabetical order. These technologies are "on the shelf" and available for application. (The technologies are not intended to compare technology level in currently deployed military systems.)

2. The technologies selected have the potential for significantly changing the military capability in the next 10 to 20 years. The technologies are not static; they are improving or have the potential for significant improvements; new technologies may appear in future lists.

3. The arrows denote that the relative technology level is changing significantly in the direction indicated.

4. The judgments represent consensus within each basic technology area.

Table II-3 compares the technology level reflected in deployed weapon systems. It should be noted that these assessments are for the level of technology only, and do not measure overall force or weapon effectiveness which is highly dependent on other factors such as doctrine, tactics, training and numbers deployed. For example, although the U.S. and USSR are assessed as being technologically equal in most land force systems, the greater number deployed by the Soviets results in their having an overall military superiority. The table shows, in aggregate, roughly the same level of deployed technology in strategic and land forces, with the U.S. superior in air, naval and C³I deployed technology level. However, the indicated shifts in the Soviets favor are a matter of concern.

In sum, with the exception of a few areas, the Soviet Union is not now a leader in science and technology. But, when numbers of modern systems are factored in, their deployed forces are equal or superior in many more areas than a system by system technology comparison shows.

Table II-3. RELATIVE U.S./USSR TECHNOLOGY LEVEL IN DEPLOYED MILITARY SYSTEMS

DEPLOYED SYSTEM	U.S. SUPERIOR	U.S./USSR EQUAL	USSR SUPERIOR
STRATEGIC			
INTERCONTINENTAL BALLISTIC MISSILE		X	
BALLISTIC MISSILE SUBMARINE	X		
SUBMARINE LAUNCHED BALLISTIC MISSILE	X →		
BOMBER	X		
SURFACE TO AIR MISSILE (SAM)			X
BALLISTIC MISSILE DEFENSE			X
ANTI SATELLITE			← X
CRUISE MISSILE	X →		
TACTICAL			
LAND FORCES			
SAMs (Including Naval)		X	
TANKS		X	
ARTILLERY		X →	
INFANTRY COMBAT VEHICLES		X	
ANTI TANK GUIDED MISSILES		X	
ATTACK HELICOPTERS (VTOL)	X		
CHEMICAL WARFARE			X
BALLISTIC MISSILES		X	
AIR FORCES			
FIGHTER/ATTACK AIRCRAFT	X →		
AIR TO AIR MISSILES	X		
AIR TO SURFACE MUNITIONS	X →		
AIRLIFT	X		
NAVAL FORCES			
ATTACK SUBMARINES	X →		
TORPEDOES	X →		
SEA BASED AIRCRAFT	X		
SURFACE COMBATANTS	X →		
NAVAL CRUISE MISSILE		X	
MINES			X
COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE			
COMMUNICATIONS	X →		
ELECTRONIC COUNTERMEASURES-ECCM	X		
EARLY WARNING (Includes Surveillance & Reconnaissance)	X		
TRAINING SIMULATORS	X		

*1. These are comparisons of system technology level only, and are not necessarily a measure of effectiveness. The comparisons are not dependent on scenario, tactics, quantity, training or other operational factors. Systems farther than 1 year from IOC are not considered.

*2. The arrows denote the relative technology level is changing significantly in the direction indicated.

*3. Relative comparisons of technology levels shown depict gross standing only; countries may be superior, equal or inferior in subcategories of a given technology in a deployed military system.

*4. The judgments represent consensus within each area.

OUTPUT OF MILITARY ACQUISITION

Measured in terms of new weapon systems and major modifications reaching operational capability each year, the USSR introduces slightly more than the U.S. (see Figure II-1). However, the USSR introduces more minor modifications than the U.S. consistent with its emphasis on routine use of evolutionary improvements in parallel with the development of new systems.

Comparisons of annual production ratios of major classes of weapons are shown in Figures II-2 and II-3. These figures summarize the average production ratios for the last five years. The black bar gives the ratio of weapons produced for each country or alliance from all sources, including imports. The striped bar gives the ratio of weapons produced by each country's or alliance's industry, including those exported. A comparison limited to only the U.S. and USSR shows a Soviet advantage in all areas except major surface combatants. Including our NATO allies in these production ratios reduces the difference to the point that NATO has an advantage in a few categories. However, a Warsaw Pact military advantage of more than two-to-one is shown in five classes, which is of continuing concern.

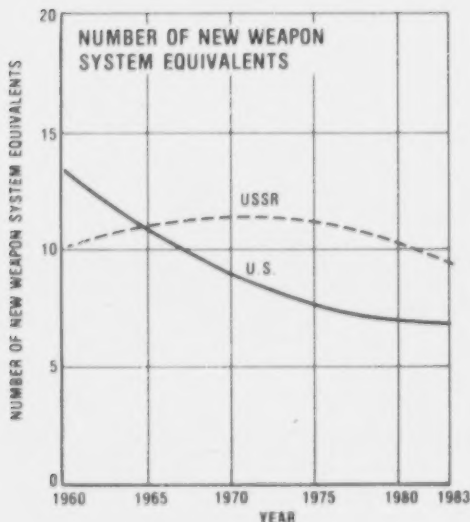


Figure II-1. TOTAL WEIGHTED NUMBER OF U.S. AND USSR WEAPON SYSTEMS INTRODUCED ANNUALLY

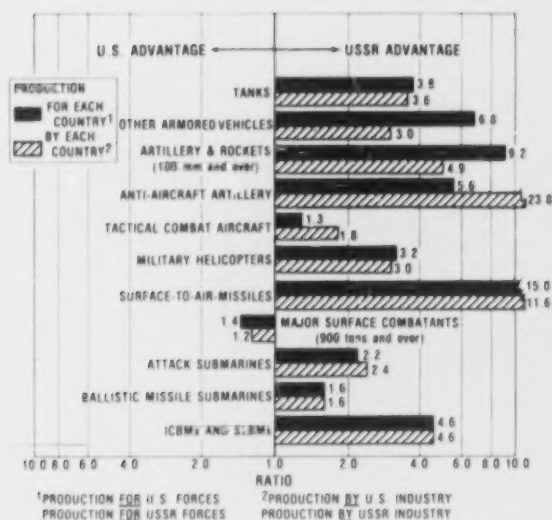


Figure II-2. AVERAGE ANNUAL PRODUCTION RATIOS OF SELECTED WEAPONS: USSR AND U.S., 1980-1984

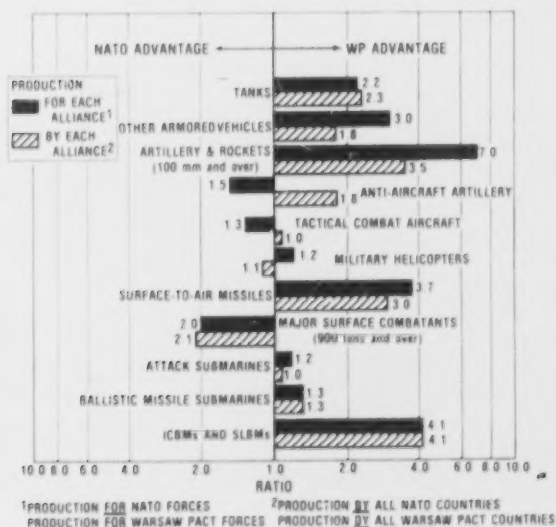


Figure II-3. AVERAGE ANNUAL PRODUCTION RATIOS OF SELECTED WEAPONS: WP AND NATO, 1980-1984

Major Modernization Efforts

It is also necessary to examine the qualitative trends that are represented in the development and production of new weapon systems. Tables II-4 through II-6 summarize major Soviet and U.S. modernization activities and their implications for a number of mission areas. It is not intended that these tables be all inclusive. Their purpose is to provide a feel for the types of major weapon modernization efforts being conducted by the U.S. and USSR.

The Soviet list connotes a capability for undertaking new initiatives as well as for following the U.S. and free world lead. Thus, while a number of the activities listed can be traced to U.S. counterparts, a comparable number are evidently Soviet initiatives, with no evolutionary basis or other linkage to free-world developments.

Noteworthy among the Soviet items listed in these tables are those that have dual applications for tactical and strategic missions. These include, for example, the SU-27 and MIG-29 fighter aircraft for tactical counter air and strategic air defense, and the SA-X-12 surface-to-air missile system with potential ballistic missile defense capabilities. Note also the new shorter-range ballistic missile developments. While these are presumed to replace older systems for nuclear attack on peripheral targets they also possess sufficient accuracy for delivery of conventional munitions and chemical agents against point tactical targets (e.g., opposing air defense and C³ facilities).

SOVIET ACQUISITION OF WESTERN TECHNOLOGY

For nearly two decades, the Soviet Union has maintained a massive national-level program for acquiring critical military-related Western technology. This effort is large and well organized, and in effect provides the Soviet Union some of the results of Western investments in R&D. Soviet military decision makers acquire such technology through a variety of mechanisms. It uses the Soviet KGB (Committee for State Security) and GRU (Chief Intelligence Directorate of the Soviet General Staff) espionage organizations; the facilities of the Ministry of Foreign Trade in Western countries, including state-owned business corporations; the Soviet State Committee on Science and Technology, which arranges government science and technology agreements; and the Academy of Science Institutes, which has contacts with Western universities and research institutes through technical conferences. These Soviet organizations also have the cooperation of their counterparts in other Red Bloc countries.

Successful acquisition of Western goods and technology by the Warsaw Pact makes the following contributions to Warsaw Pact military efforts:

- o Saves billions of dollars;
- o Reduces weapon systems development times;
- o Enhances productivity of the defense industrial base;
- o Reduces engineering risks in weapons acquisition;
- o Allows more effective qualitative response and countermeasures to Western weapons and tactics.

We believe that Soviet/Warsaw Pact technology acquisitions from the West over the last 20 years have provided very important contributions to Soviet capabilities in all key mission areas (strategic warfare, tactical warfare, C³I, and defense-wide support).

As the Soviets pursue their aggressive technology acquisition program, the U.S. and its allies must work to curtail those transfers with significant adverse military impact. Our recent export control efforts have been successful in curtailing critical transfers; however, there will be continued efforts on the part of the Soviets to acquire specific technologies in the coming years. Given this fact, we must continue to place emphasis on restricting transfers, not only through the use of the Commodity Control List (CCL) and Coordinating Committee (COCOM) but also through other channels.

Table II-4. MAJOR STRATEGIC MODERNIZATION EFFORTS

U.S.		USSR	
Mission Area/System	Qualitative Trends	Mission Area/System	Qualitative Trends
STRATEGIC OFFENSIVE SYSTEMS			
PEACEKEEPER ICBM	• Hard target capability • Increased throw weight • Improved ICBM effectiveness	SS-X-24 ICBM (Peacekeeper Class) SS-X-25 ICBM Improved Liquid Propellant ICBM's	• Transition to solid propellant boosters • Mobility for survivability • Improved accuracy
TRIDENT SSBN	• Improved quieting for reduced detectability • Improved defensive systems • Increased firepower	TYPHOON SSBN	• Capability to operate under Polar ice cap
TRIDENT II (D-5) SLBM	• Hard target capability • Targeting flexibility/coverage	Improved SS-N-20 SLBM SS-NX-23 SLBM Improved SS-NX-23 SLBM	• Enhanced firepower, target coverage
B-1B Bomber	• Improved penetration capability, base escape • Increased firepower • Enhanced flexibility for a variety of bomber missions	BLACKJACK Bomber	• Increased firepower, capability and flexibility for strategic bomber force
B-52 Air Launched Cruise Missile (ALCM)	• Assured penetration by diluting and stressing enemy air defenses	BEAR H/A-15 Air Launched Cruise Missile (ALCM)	• Provides standoff capability for strategic bomber force
Short Range Attack Missile (SRAM II)	• Improved accuracy and survivability • Greater warhead flexibility		
Sea Launched Cruise Missile (SLCM)	• High mission flexibility (land attack/anti-ship) • High survivability/penetrability	Modified YANKEE Cruise Missile Submarine Large Sea Launched Cruise Missile (SLCM) SS-NX-24	• Adds a new dimension to the strategic nuclear threat
Extremely Low Frequency (ELF) Submarine Communications System	• Improved connectivity to submarine forces	Extremely Low Frequency (ELF) Submarine Communications System	• Improved connectivity to submarine forces
STRATEGIC DEFENSIVE SYSTEMS			
Ballistic Missile Early Warning System (BMEWS) PAVE PAWS Ballistic Missile Warning System	• Improved early warning • Continental coverage for warning of SLBM attack	Modified GALOSH ABM High Acceleration Missile Krasnoyarsk and Pushkino Very Large Radars MiG-31 (FOXHOUND) Air-to-Air Missile, AA-9	• Two-layer ABM defense • Improved potential for nationwide ABM capability • Improved capability to engage low altitude aircraft and cruise missiles • Provides look down/shoot down capability
Over-the-Horizon Radar (OTH-B)	• Long range, all-altitude surveillance • Flexible capability to address future threats	IL-76 (MAINSTAY) AWACS	• Improved capability to detect and identify low altitude aircraft and cruise missiles
F-15/Anti-Satellite System	• Responsive to low altitude Soviet satellite • Launch flexibility	SA-10 Surface-to-Air (SAM) System Modification	• Mobility for increased survivability
NON-STRATEGIC NUCLEAR SYSTEMS			
PERSHING II Tactical Ballistic Missile	• Rapid response for time urgent targets • High mission flexibility and survivability • High accuracy permits reduced warhead yields and lower collateral damage	Improved SS-20 IRBM SS-12, Mod 2, SS-21, SS-23, Tactical Ballistic Missiles	• Accuracy improvements leading to possible conventional and chemical application • Improved accuracy and range
Ground Launched Cruise Missile (GLCM)	• Increases theater firepower • Increases survivability of theater nuclear force • Low altitude, low radar cross section, and small infrared signature	SS-CX-4 Ground Launched Cruise Missile (GLCM) Large GLCM Development SS-NX-21 SLCM	• New peripheral attack capabilities, eventual accuracy improvements for non-nuclear applications

Table II-5. MAJOR TACTICAL WARFARE MODERNIZATION EFFORTS

U.S.		USSR	
Mission Area/System	Qualitative Trends	Mission Area/System	Qualitative Trends
TACTICAL COUNTERAIR SYSTEMS			
Patriot Surface to Air Missile System	• Simultaneous engagements • Effective in intense ECM environments • Increased mobility • Multiple targets	SA-X-12 SAM System	• Capability to engage SRBMs as well as high performance aircraft
Stinger Man Portable (SAM)	• Identification, Friend or Foe • All Aspect target engagement • More maneuverable	ZSU-23-4 Follow-on Self-propelled Anti-Aircraft Artillery	• Improved mobility, lethality and accuracy
Advanced Medium Range Air-to-Air Missile	• Multiple engagements against ECM	SU-27 (FLANKER) MiG-29 (FULCRUM)	• Look-down/shoot-down fighters • Possible ground attack role • Dual strategic/tactical mission
CLOSE AIR SUPPORT AND CLOSE GROUND COMBAT SYSTEMS			
AH-64 Apache Attack Helicopter	• Improved speed and agility • Night and all weather capability • Target detection/designation capability • Advanced avionics and armament	Mi-26 (HALO) Helicopter Mi-28 (HAVOC) Helicopter	• Heavy payload, long range • Increased speed, agility, lift capability • Increased survivability
AV-8B Harrier II V/STOL	• Vertical landing and takeoff • Improved weapon accuracy • Improved weapon accuracy	new Helicopter	• Fighter helicopter with air-to-air capability (world's first)
Light Armored Vehicle (LAV-25)	• Lightweight, assault capable direct fire support weapon	T-80 Tank	• Survivability versus chemical attack, nuclear effects • Enhanced firepower • Dual conventional/nuclear capability
Multiple Launch Rocket System (MLRS)	• Suppression of enemy artillery and air defense	152 mm gun	
HELLFIRE Air to Surface Missile	• Improved anti-armor capability	Millimeter Wave Anti-Tank Guided Missile	• Improved capabilities
Laser Maverick Air-to-Surface Missile	• All weather close air support weapon		
INTERDICTION AND DEFENSE SUPPRESSION SYSTEMS			
High Speed Anti-Radiation Missile (HARM)	• All weather missile to destroy enemy radars • Increased weapons load • Operational flexibility	Electro-Optical Tactical ASM	• Increased target coverage • Precision weapon delivery
FA-18 HORNET	• Provides electronic countermeasures (ECM) protection to tactical aircraft		
EF-111A Tactical Jamming Aircraft			
NAVAL SYSTEMS			
CG-47 Aegis Cruiser	• Quick reaction • High firepower • ECM immunity in AAW	Nuclear Powered Aircraft Carrier	• Conventional Take-Off and Landing (CTOL) capability
DDG-51 Guided Missile Destroyer	• Quick reaction • Multi-mission guided missile destroyer • Operates offensively and defensively	SLAVA-class Guided Missile Cruiser (about 12,000 tons)	• Increased firepower
LSD-41 Landing Ship Dock	• Improved amphibious capability	New Naval SAM	• Improved Fleet Point Defense
LAMPS Mk III ASW System	• Expanded ASW Capability	Ka-27 (HELIX) ASW Helicopter	• Growing emphasis on sea-based airpower
ASW Stand-Off Weapon	• Provides submarines with effective ASW stand-off capability	MIKE class Nuclear Attack Submarines (SSN) SIERRA-class SSN	• Increased size • ASW missile armament • Submerged long range stand-off
Rolling Air Frame Missile	• Cruise Missile defense for naval forces	SS-N-22 Surface-to-Surface Missile	• Increased speed and low altitude penetration
Mark 50 Torpedo	• Improved speed and endurance for enhanced capability	Torpedo	
MOBILITY SYSTEMS			
C-5B Transport	• Expanded force projection • Out-sized cargo capability • Drive-on/Drive-off capability	IL-76 (CANDID) Tanker AN-72 (COALER) Transport	• Improved in-flight refueling • Configuration similar to much larger US KC-14 Short Take-off and Landing (STOL) transport
C-17 Transport	• Provides expanded inter-theater and intra-theater airlift capability. Has out-sized cargo capability	CONDOR Transport	• Comparable to C-5

Table II-6. MAJOR SPACE MODERNIZATION EFFORTS

U.S.		USSR	
Mission Area/System	Qualitative Trends	Mission Area/System	Qualitative Trends
SPACE SYSTEMS			
Space Shuttle	• Place DoD satellites in orbit • Use of Inertial Upper Stage (IUS) to place DoD payloads in high orbit	Space Shuttle	• Reusable space transportation system
		Medium-Lift Launch Vehicle	• Supports high launch rates
		Heavy-Lift Launch Vehicle	• Saturn - V class
		Space Plane Development	• Manned reconnaissance and observation
Navy Remote Ocean Sensing System	• Naval oceanographic satellite	GLONASS Navigation Satellite	• Worldwide precision navigation and positioning
Defense Satellite Communications System III (DSCS III)	• Improved jam resistance for command, control and early warning	Satellite Data Relay	• Worldwide near-real-time data transmission
Milstar Satellite Communications System	• Increase of communications capacity and survivability		
Navstar Global Positioning System	• Precision all weather navigational data		

ACQUISITION MANAGEMENT

INTRODUCTION

In seeking to revitalize our nation's military strength, it was essential from the outset of this Administration to improve the acquisition process. The time required from concept formulation to production and deployment had increased significantly over prior decades. Program and unit costs were rising beyond acceptable limits. Important defense systems were not performing as intended, and, in many cases, reliability had become suspect. The message was self-evident. If we were to be successful in achieving our basic goal to rebuild America's military strength, priority attention had to be devoted to the manner in which we acquire military systems.

Consequently, our first order of business was to conduct a comprehensive review of the defense acquisition process and to identify the remedies necessary to reduce acquisition time and costs and to insure the timely availability and reliability of our weapon systems. In April 1981 the Deputy Secretary of Defense introduced 32 management initiatives which resulted from the joint review of the acquisition process conducted by the Office of the Secretary, the Joint Chiefs of Staff, the Services, and representatives of industry. Many of these initiatives have been implemented and fully integrated into the acquisition process during the past four years. Those initiatives which have not yet been fully implemented have been reemphasized, and now receive priority management attention as basic pillars of the Defense Acquisition Improvement Program (DAIP).

The spare parts procurement reforms introduced by the Secretary in July 1983 constitute a major area of acquisition management reform. As a result of initiatives to reduce the price of spare parts purchases, the Department has initiated a new approach which promises to avoid overpricing in the future. We are committed to full implementation of the Secretary's ten point program to reduce pricing abuse, and strongly support the Service programs and initiatives which are underway to provide cost-effective management of spare parts procurement.

In the long term, none of the acquisition reforms mentioned will endure unless America's defense industrial base remains strong. Industrial responsiveness has been designated by the Deputy Secretary as a matter of highest management priority. We have taken a number of important steps to insure that we achieve this underlying goal. Through programs such as the Industrial Modernization Incentives Program (IMIP), we continue to seek ways to improve the productivity of our defense industries. Renewed emphasis is being placed on quality assurance.

DEFENSE ACQUISITION IMPROVEMENT PROGRAM

As we approach the fourth anniversary of the DAIP, we take considerable pride in the progress we have made. The acquisition process itself has undergone considerable simplification. The administrative burden has been reduced. Greater emphasis has been placed on ensuring proper support and reliability for our systems. Important steps have been taken to improve program affordability and stability through more effective cost-control mechanisms. The foundation for further improvements in the acquisition process has been laid.

Full implementation of the DAIP initiatives, however, is not completely within the control and authority of the Department. The successes which have been achieved thus far have often occurred because the Services and the Secretary have received support from other Executive Branch agencies, as well as from the Congress. Future progress in implementation depends heavily upon maintaining the basic consensus which exists and expanding support to wider areas of management emphasis. In particular, major progress in improving the affordability of our defense programs through increased program stability depends upon the cooperation between the Department and the Congress. Full budgetary support of our acquisition programs will enable us to avoid the costly stretchouts and program perturbations imposed during the past three years.

Simplifying the Process

The basis upon which we have proceeded is simple: top management is responsible for policy formulation, while the Services are responsible and accountable for implementation. Management decisions are made at the appropriate level so that only high priority problems are addressed by top management. Day-to-day management is left in the hands of the Services and program personnel. The dollar threshold of programs which require review by the Defense Systems Acquisition Review Council (DSARC) was specified so only the highest priority programs are reviewed by top management. In addition, unnecessary reviews have been avoided by delegating production decisions to the Services for those programs that have not breached their thresholds. Indeed, the number of standard DSARC milestone reviews have been reduced from four to two for major programs.

Improving Cost Control

A basic dilemma which we face is that in order to save money in the long-term, we must often invest it in the short-term. Since Congress controls the funding, we are particularly dependent on congressional support for the success of many of our initiatives. With the support of Congress, we have enjoyed particular success in reducing costs through up-front investments in multiyear procurement. The 32 multiyear programs which Congress has approved during the past four years are estimated to save over \$4.0 billion in then year dollars over annual contracting methods. Additional savings of over \$2.0 billion will be achieved through investments in more economic production rates for systems which we have proposed to and were budgeted by Congress. Our efforts to ensure more realistic cost estimates by requiring the use of independent cost reviews and by applying more realistic inflation guidelines has established an important foundation for more realistic budgets in the future. The record already shows that we have made significant progress in controlling cost growth. The CBO has confirmed our finding that the rate of cost growth for major systems has been reduced from about eight percent in 1981 to less than one percent in 1983.

Achieving Greater Program Stability

Improving the affordability of our programs depends upon achieving greater program stability through eliminating arbitrary program changes, and controlling the number of programs which claim our limited resources. We continue to take the necessary internal management steps consistent with this view. Each of the Services has a management system which discourages arbitrary program changes by establishing a recognized baseline. In addition, we have reduced the number of approved new program starts to an essential affordable minimum. At the same time, we have cancelled 188 lower priority programs during the past four years which reduced our funding requirements \$18.7 billion. Unfortunately, improved program stability ultimately depends on full budgetary support, a matter which lies in part beyond the control of the Department. Acquisition funding has been reduced by more than \$100 billion below five year projections established in FY 1981. As a result a considerable number of program stretchouts have been dictated.

Improving Support and Readiness

We have established the foundation for significant enhancements in the support and readiness of our systems. Policies and procedures for improving support and readiness are largely in place. The Services have revised top-level acquisition directives and policies on Integrated Logistic Support (ILS) to incorporate our support and readiness initiatives. Organizational responsibilities and procedures have been realigned for establishing support and readiness requirements; for developing and acquiring support systems; for reviewing ILS and readiness at key acquisition decision points; and for testing and evaluating feedback from the field on weapon system support.

Early emphasis on support and readiness is being given by assigning readiness objectives to new programs and by focusing top management attention on structuring development programs and providing front-end funding to improve reliability and support characteristics. Incentives for improving support are being used and encouraged. In addition, we have provided greater visibility to

ILS funding during our budget review to ensure that ILS requirements are met. We have systematically reviewed the logistic support requirements and funding for 29 major systems to insure that they were fully funded to meet the Services' stated requirements.

While we expect these initiatives to have enduring impact, recent indications are that improvements in readiness are already being achieved. Mission capable rates for our tactical aircraft, for example, have improved significantly since FY 1980. The reliability of the F/A-18 aircraft is more than double that of its predecessors and it is being operated with a 20% reduction in squadron maintenance personnel.

Enhancing Competition

The increased emphasis which we have placed on using competition has begun to show impressive results. Competition goals have been set, and competition advocates and supporting staffs are in place. New policy guidance has been issued through the release of DoD Directive 4245.9, Competitive Acquisitions.

Emphasis has also been placed on clarifying our policies on acquiring and using rights in data. On major new hardware contracts, the Air Force has implemented a requirement to obtain unrestricted rights to technical data not later than five years after initial delivery. This will provide essential data to firms wishing to bid on spare parts and should significantly expand the defense supplier base. Other specific actions are being taken as part of the spare parts procurement reforms which are discussed in detail later in this section. We are also working to reduce the paper work required for small contracts to encourage greater participation by small businesses.

The record shows significant improvement in competition during the last four years. In FY 1980, the value of competitive awards in DoD was \$25.1 billion. By the end of FY 1984, competitively awarded contract dollars reached about \$53.4 billion, or an increase of 12 percent over FY 1983. In addition, the number of competitive awards on procurement actions has increased from 4.4 million in FY 1980 to six million in FY 1984, an increase of almost 37 percent.

Preplanned Product Improvement

Preplanned Product Improvement (P³I) is an area we need to emphasize more. There is potential for significant savings when we can extend the life cycle of a system which might otherwise be curtailed. The direct savings of amortizing the production costs of the basic system design over a longer period is obvious. But we also enhance readiness, because we don't need to start over training people or building up the support base as we do with a new system. On the indirect side, P³I provides options for deploying new subsystems when they are ready to field which removes the need to deploy totally new systems to react to the appearance of new threats.

Defense Acquisition Improvement Program Summary

The DAIP is a dynamic program through which we have accomplished a great deal during the past four years. Initiative number 23 of the original 32 initiatives emphasized implementation as a separate action with equal priority to the other initiatives. Consequently, we continue to conduct periodic reviews of the initiatives in order to assess the progress which has been made and the problems and opportunities which remain. If additional actions are required in order to achieve full implementation, the DAIP remains flexible enough to allow for necessary adjustments. For example, during the past year, the Deputy Secretary completed a review of the DAIP initiatives and determined that an additional priority initiative to enhance industrial responsiveness warranted special high level management attention. A working group has been formed and an agenda established for FY 1985. The DAIP will continue to address our most pressing acquisition problems and will adapt to the acquisition management challenges of the future.

JOINT PROGRAM MANAGEMENT

The historic intent of the Congress remains as clear today as it was in its early charge to the Secretary of Defense--to assume responsibility for enhancing effectiveness, economy, and efficiency in management activities common to more than one military department. What is different is that vastly

greater threats and new technology now demand cooperation and efforts to achieve combined effectiveness in ways which could not have been foreseen when Congress enacted the DoD charter into law. At the same time, technology and advances in management now offer opportunities which previously appeared to be beyond our grasp. These include opportunities for joint activities to help significantly in offsetting the dangerous quantitative superiorities of the threats which continue to confront us and our allies.

Joint ventures or new technology are not ends unto themselves; rather, the end is enhancement of joint warfighting capabilities across the Services. There are a number of important criteria which must be used to determine whether or not it is advisable to pursue a joint program:

- o Will the investment in a joint program make real improvements in combat effectiveness?
- o Will the joint effort support our military doctrine? Joint programs must develop capabilities suitable for use in support of combined Service doctrine, including the inevitable changes and refinements to which it is subject.
- o Is there joint agreement on the mission needs? A mission area frame of reference by all participants in the Planning, Programming and Budgeting (PPBS) and DSARC systems is an essential prerequisite.
- o Does it make sense to develop and produce a system jointly? Or should joint efforts be incorporated into only the appropriate phase of a program?

Agreement on each of these areas does not come easily. Valid differences exist among Services on mission, operational, and technical requirements. The challenge is to identify areas where potential for capability improvement or cost savings exists, and to direct management efforts accordingly.

We have instituted special high level management bodies to address the opportunities and challenge of joint program development and management. Examples include the Broad-Area Surveillance Executive Committee (See Naval Warfare), the Interdiction Executive Board, the Command, Control, and Communications Executive Committee, and the DoD-wide Munitions Council. In some cases, it has also made sense to focus broad-based research and technology efforts toward a specific goal. The Strategic Defense Initiative Executive Committee currently serves this function. More mature evolving mission areas may also require high level management support, such as we provide through the Interdiction Executive Board.

High level management support is complemented by special joint service management support. For example, the Army and Air Force formed a force development group to integrate operational and technical requirements related to a number of programs. As a result of that group's efforts, the Army and Air Force developed a list of 31 joint initiatives to provide an increased combat capability at reduced cost, including agreement on the platform and operational concept for the Joint Surveillance and Target Attack Radar System and the development of a complementary family of weapons.

In addition, the Joint Requirements and Management Board (JRMB) made recommendations approved by the Secretary of Defense to reduce the number of lethal cruise missile programs in order to pursue a more focused and balanced development program for both the stand-off ballistic and cruise missile capability.

The anti-armor mission is another major element of air/land combat that has clearly needed joint oversight if there is to be timely rationalization of operational and technical requirements. An Anti-armor Master Plan Steering Group has been formed to evaluate the potential for greater coordination and joint program management. The Steering Group provided an initial report on improvements in anti-armor mission area management to the Congress in March 1984.

The oversight role of the Joint Logistics Commanders (JLC) is critical for effective joint program management. This very senior cross-Service acquisition body sets the standard and pace for individual programs. It meets regularly and reviews activities and recommendations of some 50 subgroups. Coordination by the JLC assists in achieving maximum commonality and economies of scale for major programs such as the three versions of the H-60 series helicopter. The UH-60 Black Hawk developed by the Army, the Navy's Sea Hawk SH-60, and the Air Force's Night Hawk HH-60A are derivative helicopters using the same basic airframe. The Joint Services Advanced Vertical Lift Aircraft (JVX) is another example. We are seeking out possibilities for similar cases where single-service development can have broad applications.

We are also providing increased emphasis to testing and evaluation across Services. Thirty joint tests have been started since the Joint Test and Evaluation Program was initiated in 1972. Current tests include Identification Friend, Foe, or Neutral; Joint Forward Area Air Defense; Joint Logistics Over the Shore; Electro-optical Guided Weapons Countermeasure, Counter-Countermeasure Program; Command, Control and Communications Countermeasures; Joint Live Fire; Joint Chemical Weapons; and Data Link Vulnerability. More work is needed in establishing common standards in the test area--as well as in the logistics support for our systems--to advance technical compatibility and interoperability.

In selected technology base areas where potential is very high and applications very broad, we do not hesitate to create special management and funding procedures. The Very High Speed Integrated Circuit program, the Ada high order computer language program, and the computer software initiative program are such areas--with joint program offices established under management of the Office of the Secretary of Defense. Formal bodies have also been set up to coordinate complementary efforts in technical areas such as electronic devices, propulsion, and guidance and control.

Last year's Defense Science Board summer study on joint programs identified program stability as perhaps the most critical element to the long-term success of joint program efforts. Priorities can and often do change over the long course of program development and production. Resource availability reflects changing priorities. Joint programs, which involve a number of participants, are the most vulnerable to changing program and budgetary priorities. Consequently, it is incumbent upon all participants in the program and budget process including the Congress to recognize the particular necessity of maintaining program stability for joint programs.

SPARE PARTS PROCUREMENT REFORM

The Services and the Defense Logistics Agency are aggressively implementing directives issued by the Secretary during the Summer of 1983 to correct problems uncovered by DoD personnel concerning our management of spare parts procurement, particularly the payment of reasonable prices. Departmental action to correct the abuses and inefficiencies of the past has been swift and effective. It is important, however, to recognize that difficulties with spare parts procurement are not new. Moreover, in a system which handles approximately 15 million procurement transactions per year, it is extremely difficult to identify every instance of impropriety. Nevertheless, we are committed to continue our comprehensive efforts to ensure a proper, cost-effective approach to spare parts procurement, and to see that any transgressions are corrected.

In response to the direction which the Secretary provided, we have accomplished a number of significant actions which have curbed immediate excesses and which have established a foundation for effective management in the future. For example, a revised regulation has been issued to enhance efforts to acquire spare parts competitively, or from the actual manufacturers, rather than from prime contractors (usually at a higher price). Managers have been appointed to identify parts for breakout and competition at all cognizant activities. Additional personnel have been acquired, or are planned, to screen spare parts on a department wide basis for which the annual buy exceeds \$10,000.

Problems with the acquisition, storage, update and retrieval of reprourement data packages are being addressed. Automatic processing systems have been designed and are being funded on a phased basis. Plans call for equipment to be purchased over a 10 year period beginning next year.

A third area of emphasis involves the development and test of a new procedure to provide incentives to major systems contractors to plan and manage spare parts so as to maximize competition. The Services are identifying appropriate systems to test these techniques and will implement the procedures which indicate the highest potential for increased competition.

Increased resources are being allotted to value engineering activities to apply their special techniques so as to determine the intrinsic cost of parts and identify substitute parts where costs can be cut.

Existing policies and regulations have been reviewed and revised, as appropriate, to stimulate competition and the payment of reasonable prices. For example, the Parts control Program was made mandatory. This will maximize the use of standard parts in development, rather than high-cost, specially designed parts. In another area, criteria have been developed to flag increases in prices and to require special review, analysis, and justification of these increases.

Training has been increased with respect to pricing, breakout, and other related spare parts management. The Inspector General's Office has conducted broad-based investigations on spare parts management at all activities and will continue to evaluate the resultant implementation. Performance evaluation factors for personnel involved in spare parts acquisition have been revised to reward actions that increase competition and save money.

In addition to the above actions, a number of contract matters have been enhanced. Spare parts planning is now included in the advance acquisition planning process for systems and is being made a consideration in source selection of contractors.

There is considerable evidence that our spare parts procurement reforms are working. Numerous instances of savings have been achieved in spare parts identified by DoD personnel as being overpriced.

WEAPON SUPPORT AND READINESS IMPROVEMENTS

Improvements in weapon support and readiness have the potential to be a major force multiplier equal in importance to performance factors. We will develop our investment strategies with an integrated view of current and future readiness. We now insure future readiness through consideration and funding of readiness/support related items early in the design and development stage of our weapons acquisition process.

The challenges we face involve application of technology, and management of our developments to achieve improvements in readiness of our weapons and support systems. To this end we must include Reliability, Availability and Maintainability (RAM) advances in many of our technology base programs; we must develop support technologies to match new weapon system technologies (as in VHSIC, fiber optics, and composites); we must include weapon support advances as inherent elements of our weapon programs, and we must apply technology to improve the logistic systems which support our weapons.

We are strengthening the emphasis on supportability in new weapon programs to be sure that early technology efforts include consideration of advances in weapon supportability as well as performance. Specifically, we intend to seek advances in reliability in order to reduce the support requirements of future weapons. Examples of new weapons on which these efforts are focused include the Advanced Tactical Fighter (ATF), the Army's light weight experimental helicopter (LHX), the Navy's Advanced Tactical Aircraft (ATA), the Mobile Protected Gun (MPG), and the Joint Service Advanced Vertical Lift Aircraft (JVX). This increased emphasis on reliability, availability and maintainability will result in higher readiness of our deployed forces.

In parallel with this early focus on support characteristics, we encourage proposals for technology base demonstration projects which have very high leverage in improving weapon support and the logistics infrastructure.

The FY 1986 budget request includes \$50 million to initiate or accelerate R&D projects to improve weapon support and logistics. After a comprehensive

review a number of projects to conduct feasibility demonstrations in the 1986-1988 timeframe have been identified. These have direct applicability to the supportability of our future weapon systems. Some examples of where we have focused attention are:

- o Packaging and partitioning avionics to demonstrate the capability to operate for long periods without the need for maintenance and eliminate the requirement for avionics shop testers.
- o Reducing false and incorrect maintenance actions through integration of diagnostic aids, both internal and external to the weapon system.
- o Seeking improvements in all types of technical information to include manuals and training aids through system integration of contractor data bases. Improving access to technical information by using automated drawings, storage and retrieval devices, automated technical manual generation, and user terminals.

In addition to these projects, we are increasing efforts in long overlooked technology areas such as calibration, field repair of composite materials, and improvement of basic design knowledge and techniques for reliability and maintainability. We intend to continue to give priority and funding to innovative ideas in the crucial weapon support and logistic areas.

INDUSTRIAL RESPONSIVENESS

During the last decade, the U.S. heavy industrial base experienced its greatest decline, with detrimental effects on both the civil and defense sectors. During this same period the Soviet Union was rapidly expanding its industrial base, which is dedicated to armament production. To reverse the decline of U.S. industry we have taken a number of actions. Significant improvements have resulted from the policies and programs established during the past couple of years.

The Deputy Secretary of Defense has directed a new high priority industrial base responsiveness initiative. This effort is designed to ensure the proper integration of industrial base considerations into the weapon acquisition process, and to identify issues and propose resolutions which will enhance the responsiveness of the industrial base. Industry joined with us to meet the challenges in the areas of surge production assessment, improving productivity and quality, and reducing acquisition costs. The Military Departments have revitalized their respective industrial preparedness programs and the Congress, for the first time, authorized funding for investment in industrial surge responsiveness. A number of initiatives, ranging from the Industrial Modernization Incentives Program to our efforts to encourage more cost-effective contract requirements are being implemented.

Defense Industrial Base Guidance

Defense Industrial Base Guidance objectives have been defined and prioritized, including establishing the industrial base program as a DoD mission area. There are four basic program objectives: (1) peacetime production efficiencies, (2) production surge capabilities, (3) wartime sustainability, and (4) effective industrial preparedness planning. Surge investment is funded for the first time in FY 1985 to provide accelerated production of the TOW 2 missile. The Joint Chiefs of Staff have implemented a program to identify and prioritize the most essential warfighting materiel needs from the perspectives of the Unified and Specified commands that will provide a common baseline to allocate scarce resources to improve industrial responsiveness. Well qualified industrial planners have been assigned to each of the Military Departments and the Defense Logistics Agency to review and analyze the industrial base needed to support the Department. Manufacturing Technology and Industrial Modernization Incentive Program investments are growing with demonstrated results in terms of improved producibility and productivity. Defense industrial base planning guidance will be further refined for the FY 1987 Defense Guidance.

The Defense Production Act

The Defense Production Act (DPA) provides the single legislative authority for essential industrial readiness programs designed to maintain the national defense. Since 1950, we have relied on this authority to maintain ongoing defense production contracts needed to support national security objectives. The B-1B bomber and Blackhawk helicopter are two programs for which we have used the priority rating authorized by Title I of the Act to maintain production schedules and ameliorate costs. The DoD has worked directly with the Department of Commerce in revising their regulations for implementing Title I and for maintaining a system of industrial priorities that would be necessary in time of emergency. The DoD is updating its internal procedures to incorporate the new Department of Commerce regulations.

In addition to our dependence on foreign sources for many raw materials, we are also experiencing a decrease in our domestic capability for processing and manufacturing a number of industrial products. Title III of the Defense Production Act authorizes government financial incentives for encouraging private sector investment in increased production capacity when it is necessary to support the national defense. We are examining this method of establishing or expanding needed domestic industrial capability, particularly in areas where foreign dependence could be damaging to our national security.

National Defense Stockpile Of Strategic & Critical Materials

The fundamental purpose of the stockpile is to ensure a secure supply of critical raw materials to support the military, industrial, and civilian needs of the United States during an emergency. The Emergency Mobilization Preparedness Board's working group on industrial mobilization has begun a National Defense Stockpile study. This study includes assessment of scenarios, assumptions and econometric models used as a basis to develop stockpile goals. We expect to develop new requirements for stockpiling through this reassessment of our current methodology.

Manufacturing Technology Program

The Manufacturing Technology Program is a broad-based program to improve the productivity and responsiveness of the defense industrial base by investing in advanced technologies for the production of DoD materiel. This program has been in existence for over 20 years, and we intend to continue to give it priority attention because of its demonstrated high-payoff record and its ability to improve industrial productivity on a broad national basis. One recent accomplishment is a manufacturing process for producing "crimped" miniature bearings and shaft assemblies for the turbine alternators used in mortar multi-option fuzes. Another accomplishment is an Automated Propeller Optical Measurement System (APOMS) which permits inspection of large ship propellers in eight hours versus 140 hours by previous methods.

Defense Economic Impact Modeling System (DEIMS)

In a major outreach effort, the DoD has made available projections of how much it intends to spend on a wide range of commodities and services over the next five years. Thus, for the first time, American business has access to projections on billions of dollars worth of defense-related purchases. DEIMS translates the DoD budget into projected levels of purchases for different industries. Both direct purchases by DoD and purchases of subassemblies, parts, and materials that go into defense goods are projected. By supplying information on what it plans to buy, the DoD hopes to stimulate a response from industry and generate new business opportunities that will broaden the competitive business base and assist the Services. By helping industry plan for defense business, we make it more likely that the DoD will have what it needs to carry out its missions.

QUALITY AND PRODUCTIVITY

While reliability and productivity have always been important management objectives, they will receive greater emphasis in the future. During the past four years, emphasis has been placed on repairing the programmatic effects of a decade of defense underfunding, and upon initiating new programs necessary to

maintain our national security into the future. Relative emphasis must now shift to ensure that the investments we have made are protected and reach fruition. We are committed to improving the quality of the products we buy and are directing management efforts to achieve our quality goals.

"Quality" is a broad subject, and requires a comprehensive approach to insure that it is achieved. Consequently, we conducted a review during the past year in which we considered three major areas of quality and productivity concern: materials, capital, and human resources. We examined actions already underway in each of these areas, and are also considering new management ideas which will help improve our quality and productivity. We have integrated these into a program called the Defense Industries Quality Excellence Program which serves as the foundation of our long-term efforts to improve quality and productivity. Following are major initiatives of the program:

Build Quality In. We believe that quality cannot be achieved unless it is built in from the beginning. Too often in the past we have added to program costs and postponed effective operational capability dates by pursuing development programs which do not yield producible designs and supportable configurations. We have published a manual designed to aid in the transition to production by providing valuable guidance to encourage disciplined engineering in design, test, and manufacturing. In addition, we have issued a new directive (DoD 4245.7) to improve the transition from development to production.

Minimize Use of Specification/Source Control Drawings. The purpose of this initiative is to eliminate unnecessary and costly special testing requirements by using standard parts and tests. Over the past several months, we have experienced problems with inadequate testing of microcircuit devices to meet the requirements contained in contractors' Source Control Drawings (SCDs). This problem has been exacerbated because major weapon system and equipment contractors have deviated from the use of military standards resulting in the creation of an excessive number of SCDs. The Deputy Secretary has issued guidance to the Services and the Defense Logistics Agency which re-emphasizes the requirement for use of standard parts and directs actions to insure vigorous application of standardization through the DoD Parts Control Program to all weapon systems contracts.

Eliminate Overspecification. Quality is also enhanced to the degree that management attention is focused on priority requirements. Under the Defense Acquisition Improvement Program initiative 14, efforts have been underway to eliminate unnecessary, non-cost-effective requirements which serve to diffuse attention away from critical areas and to refocus attention on high priority contract requirements. The Services have already applied this initiative to a number of major programs, and have identified 12 programs for specification streamlining.

Quality Performance and Contract Awards. Direction already exists which seeks to ensure that contracts are not awarded to contractors with a history of providing supplies or services which were of unsatisfactory quality. What is needed is an effective mechanism to document quality history to aid in the source selection process. We are devoting efforts to develop an evaluation tool to meet our needs for improved source selection.

Improved Vendor Control. Many problems of poor quality and low productivity are the result of poor quality of incoming material. Although it is the prime contractor's responsibility to exercise quality control of their subcontractors and vendors, the Department can encourage the primes to play a more active role. We strongly support, for example, the joint sponsorship by several primes of full-time, third party, in-plant inspectors in microcircuit plants (FLAIR Program).

Implement Warranties. Quality can also be improved through the proper use of warranties. The DoD has had a long history in the use of warranties. Recent changes in the law concerning the use of warranties now assure that critical performance requirements for major systems must be met under terms of a warranty. Department implementation of warranties is already in place, and we are taking action to insure that policy guidance reflects the changes which have occurred in legislation.

Modernize Factories. Modernization of factories coupled with the implementation of automatic inspection techniques will improve process control which will lower total costs while improving both quality and productivity. A major effort currently underway is the Industrial Modernization Incentives Program (IMIP) which is currently being applied on a test basis to provide incentives to industry for factory modernization. The results thus far have been encouraging. It is anticipated that the test phase will be terminated during CY 1985 in favor of broader IMIP implementation.

Provide Incentives to Personnel. The problems of low manufacturing yields and consequent higher costs of scrap, rework, and repair can be attributed in part to a lack of motivation and training to do a job correctly. An initiative is being developed on a test basis which gives priority to quality by sharing savings with employees. If the experiment proves successful, we will develop guidance for broader application.

Improve Quality Training. Because everyone has an influence on quality, from line workers through all levels of functional and general management to senior executives, each can benefit from training in the principles and methods of quality assurance. During the coming months, we will be working with industry and academia to develop a plan to improve quality training programs for all levels of personnel.

Tighten Quality Surveillance. The Department already conducts a vigorous program of audits and investigations to assist in quality assurance through identifying and correcting instances of fraud, waste, and abuse. Decisive actions such as suspension of progress payments, contract cancellation, or debarment will continue to be taken as appropriate against those who abuse the acquisition process.

STRATEGIC AND THEATER NUCLEAR FORCES

In this and the following chapters the broad achievements, management focus, challenges, goals and objectives for accomplishment of the Research, Development and Acquisition Program are discussed in the context of major military missions. Additional programmatic detail (cost, quantity, schedule) is available in the Descriptive Summaries which are provided separately.

STRATEGIC PROGRAM GOALS/OBJECTIVES

Our basic strategy is deterrence, across the entire spectrum of conflict. Deterrence is a function of three factors: military capabilities, if called, the will to use them, and a potential aggressor's perception of the first two. Thus, implicit in our concept of deterrence is the capability and determination, should deterrence fail, to deny an enemy their objectives at any level of conflict, including strategic nuclear, a major war in Europe or the Pacific, or a small-scale aggression that has the potential to threaten major U.S. interests in other parts of the world.

The backbone of American military deterrent power is our strategic nuclear arsenal -- the missiles, submarines, and bombers that can deliver nuclear warheads intercontinental distances. The destructive potential of these weapons gives them a special place in the hierarchy of military power and confers extraordinary responsibilities on those who exercise control over them. Detering nuclear war--making that unlikely possibility even more remote--is therefore our highest national priority. Pursuing this objective requires us to give the most serious and careful attention to our strategic doctrine and plans, the forces themselves, and the process of strategic arms reductions.

Several Soviet perspectives are relevant to the formulation of our deterrent strategy. Soviet objectives are to gain their ends by coercing and intimidating others to give in to their demands because of the threat of the use of military power. If war occurs, as highlighted in Soviet writings for many years, their objectives are to seize the initiative with a devastating first strike to achieve victory in the shortest possible time, yet defend the communist state and hold out against massive nuclear strikes of the enemy with the fewest possible losses. They intend to be able to wage war for a protracted period of time and to maintain a high "moral-political" state of the population. Soviet writings conclude that they should be in a posture best prepared to fight and win a nuclear war with the U.S.

Our primary objective then is to develop and maintain strategic nuclear forces that present a fully credible deterrent in the face of changing conditions. Maintenance of an acceptable strategic balance--in appearance and in fact--strengthens deterrence by dispelling any illusion that the outcome of a nuclear war could be advantageous to a potential aggressor. This has never been an easy task, and in recent years even though there has been strong popular support for a strong defense, the economic implications have made modernization difficult. The President's strategic modernization program--initiated in October 1981--is intended to decrease the likelihood of war.

INTERCONTINENTAL ATTACK

Introduction

These forces consist of intercontinental bombers and associated tankers and missiles, land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs) and the associated submarines. As shown in Table IV-1, over the past ten years the USSR has produced far more strategic systems for its forces than the U.S.

Figure IV-1 compares the Soviet and U.S. deployment of strategic offensive weapons systems since 1960. Note the high rate of system deployment after SALT I. As a result of these trends, the USSR has overtaken the U.S. in numbers of delivery vehicles although it has remained behind the U.S. in total on-line missile reentry vehicles and bomber weapons. Also the USSR has overtaken and surpassed the U.S. in total throw weight, yield and equivalent megatons. The accuracy of some Soviet ballistic missiles now approaches that achieved by our best deployed systems. In addition, the U.S. strategic forces are considerably older than comparable Soviet forces.

To reverse these trends we are working to modernize each leg of our strategic triad. Our ICBM forces will be upgraded with the new Peacekeeper

missile; and, later, the small ICBM, now in the early phase of development. We will continue to add new TRIDENT submarines to the undersea fleet armed with the C-4 and eventually the D-5 SLBM. The new B-1B bomber is in production, the Advanced Technology Bomber (ATB) is progressing well in development and the B-52 fleet is now equipped with about 1100 ALCMs.

Figures IV-2 and IV-3 show the estimated value (defined as the average unit procurement cost multiplied by the quantity in the force) of the major classes of weapons in the operational strategic offense forces of the U.S. and USSR. During the past 20 years, the USSR has substantially increased the emphasis on its strategic submarine force.

Table IV-1. PRODUCTION SUMMARY OF STRATEGIC INTERCONTINENTAL WEAPONS FOR U.S. AND USSR

CATEGORY	1975-1984 10-YEAR TOTAL		1984		10-YEAR TREND	
	USSR	US	USSR	US	USSR	US
ICBMs	2200	223	100	0	↓	↓
SLBMs	1900	540	200	80	--	↑
SSBNs	30	5	2	2	↓	↑
Bombers	40	0	20	0	--	--

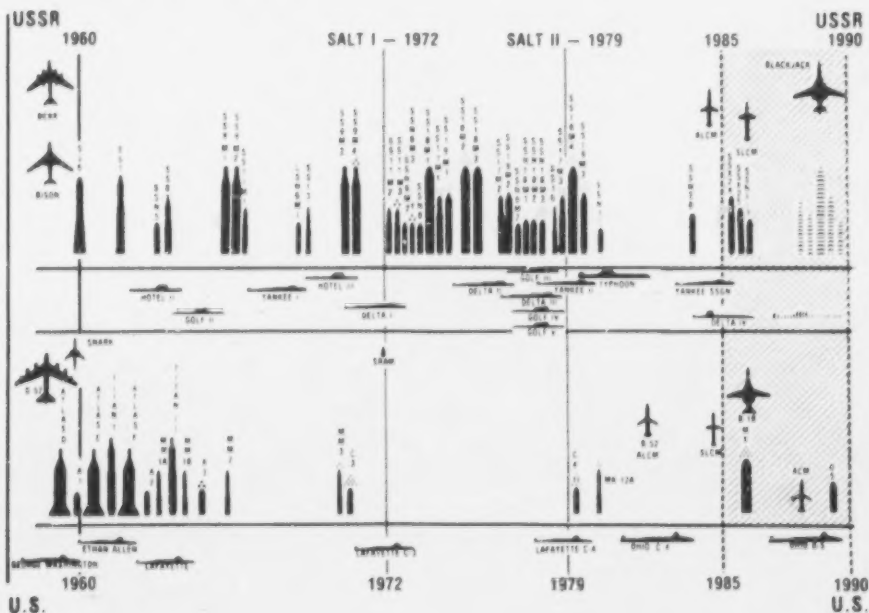


Figure IV-1. U.S. AND USSR STRATEGIC INTERCONTINENTAL SYSTEMS SINCE 1960 (DEPICTED BY DATE OF SYSTEM IOC)

The preceding three figures vividly illustrate the results of the long term disparity between the U.S. and USSR in procurement of strategic offensive weapons.

The following paragraphs summarize our accomplishments in support of the President's plan. Each of the five elements of the President's strategic modernization program has presented a unique challenge for the Department of Defense and the Congress. We have made progress, and we have encountered problems; but overall, with support from Congress, hard work from defense contractors, and dedicated personnel, we are well on the way toward meeting our goals for maintaining a credible nuclear deterrent. Some highlights and significant events in the major areas over the last year include:

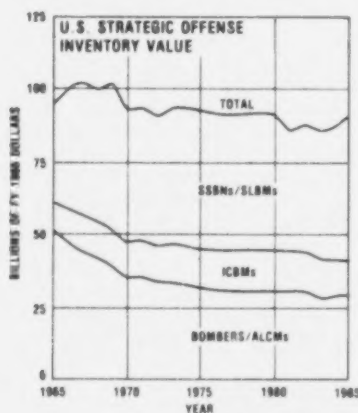


Figure IV-2. U.S. STRATEGIC INTERCONTINENTAL ATTACK FORCE INVENTORY VALUE

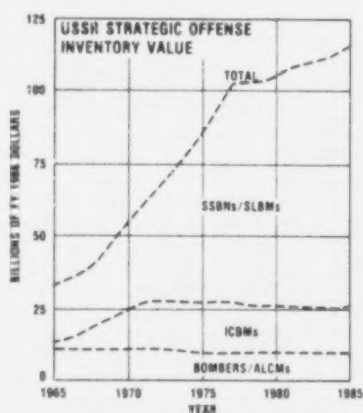


Figure IV-3. USSR STRATEGIC INTERCONTINENTAL ATTACK FORCE INVENTORY VALUE

Survivable and Enduring C³I Systems

Survivable and enduring command, control communications, and intelligence systems (C³I) are imperative if we are to be able to demonstrate the capability to employ our nuclear forces effectively and therefore provide credible deterrence. These systems must not only be able to survive an initial attack, but they must be able to operate during and after an enemy attack to permit a coordinated response by U.S. forces controlled by the National Command Authorities. Most importantly, they must provide the Commander-in-Chief with the highest possible confidence of detecting, identifying, and reporting to him with high confidence an enemy attack under all conditions.

A major milestone in our continuing efforts to make our critical C³I systems survivable and endurable passed this January with the delivery of the final E-4B aircraft for the National Emergency Airborne Command Post (NEACP). Work also continues with the Aircraft Alerting Communications EMP (AACE) upgrade program for detection of potential high-altitude EMP bursts and for EMP-protection of selected communications equipment at SAC wing command posts. In addition, we successfully completed most of the preliminary design reviews for both the ground and space segments of the Milstar program.

We also are closing in on the initial operational capability--termed the Thin Line Connectivity Capability--for the Ground Wave Emergency Network (GWEN) scheduled for next year. GWEN will provide a long-range, highly reliable strategic communications system using ground wave relay technology and proliferated operating nodes.

Our efforts to upgrade the Navy Take Charge and Move Out (TACAMO) communications aircraft continue. After a thorough review of all alternatives, we have concluded that the E-6A (Boeing 707) is the preferred approach from an airframe point of view. We are also pursuing Very Low Frequency (VLF) upgrade

for the TACAMO mission to enhance our capability to provide critical communications to TRIDENT submarines deployed in the Pacific.

To upgrade peacetime communications to deployed submarines and to support the transition to wartime operations, we are constructing a dual-site, Extremely Low Frequency (ELF) communications system. Submerged submarines must now deploy an antenna at or close to the ocean's surface to receive messages, thus potentially increasing their susceptibility to detection. This constraint will be alleviated by the use of ELF communications, which can penetrate sea water to much greater depths. The two transmitter sites in Wisconsin and northern Michigan will provide a highly reliable means of maintaining continuous contact with the submerged submarine force.

Bomber/Tanker/Cruise Missile Forces

Bombers and tankers are the most flexible elements in the strategic triad since they can be launched for survivability before any decisions are made to use nuclear weapons and controlled after launch. Bombers are also recallable and, very importantly, they can be reconstituted for follow-on missions. They can also be launched to signal national resolve during a time of crisis.

The major initiative in this area continues to be the two bomber--B-1B and Advanced Technology (Stealth) Bomber (ATB)--programs. The B-1B remains both on schedule and within cost. The B-1B rollout was held on 4 September 1984 with the first flight on 18 October 1984--a full five months ahead of contract schedule. Delivery of one squadron of 15 aircraft to the Strategic Air Command will occur in 1986. All contractors are now operating within their budgeted costs and are either on or ahead of schedule for the 1986 IOC. On 29 August 1984, B-1A aircraft No. 2 crashed during a test flight due to improper fuel distribution management during low-level, low-speed flight. Efforts are in progress to correct the cause of the malfunction. The aircraft had essentially completed its test objectives except for initial ALCM testing.

Because the ATB program remains highly classified, we can only report that the prime contractor and key members of the development team are now in place and working. The program is progressing smoothly even though we are only in the early developmental stages. The technologies involved, however, represent extraordinary military significance in their potential to negate present and projected enemy air defenses. We are confident the ATB will extend the advantages of bombers in the triad well into the twenty-first century.

In the cruise missile area, we are continuing to wind down the ALCM-B (AGM-86B) program with the last buy in FY 1984 and the last delivery in FY 1987. We now have more than five squadrons of B-52 aircraft equipped with external ALCMs. This represents a significant achievement since the first ALCM squadron went operational in December 1982. A total of about 1750 ALCMs will be delivered to the Air Force by FY 1987. Planning is on schedule toward supporting ALCM-B testing in Canada and two live launches are planned for February 1985. First deliveries of the Advanced Cruise Missile (ACM) are planned for the late 1980s. With its reduced signature, longer range, and improved guidance, the ACM will ensure the continued effectiveness of our strategic cruise missile forces for years to come. The continued support from Congress has allowed us to make a smooth and orderly transition from ALCM to ACM production.

Other notable events last year include: award of the initial study contracts for the Short-Range Attack Missile, Version II (SRAM II; formerly known as the Advanced Air-to-Surface Missile); continued modification of our B-52 aircraft for ALCM carriage and maintainability/flight safety; and delivery of first KC-135R reengined tanker to McConnell AFB, Kansas with an IOC planned for 1985.

Sea-Based Forces

Sea-based strategic weapon systems provide the greatest assurance into the foreseeable future of a survivable retaliatory force. Our efforts in this area, from basic research programs through new weapons systems to improved operating procedures, are intended to maintain this high-confidence deterrent.

Since the commissioning of the first TRIDENT-class submarine (USS OHIO), the Navy has received four more with the USS Henry Jackson (SSBN 731) delivered on 6 October 1984. The sixth boat, the USS Alabama, is scheduled for delivery

this coming June. These submarines provide a significant measure of deterrent capability, and our steady progress in deploying these submarines is providing a cost-effective transition from a submarine force designed in the 1950s to one that will ensure a high confidence, sea-based deterrent well into the next century.

Complementing the new TRIDENT-class submarine will be the TRIDENT II (D-5) missile. This new SLBM will have sufficient accuracy to place Soviet hard targets at risk. Eventually, it will be deployed throughout the SSBN fleet. Full scale engineering development began last year and the initial motor firings are imminent. We expect to conduct the initial guidance system test flights by October of this year. We continue to expect an initial operating capability for the D-5 missile on or before December 1989.

Land-Based ICBM Forces

The need to modernize our ICBM forces for the tasks of the 1980s, 1990s and beyond still requires near and far term solutions. In the near term, the Peacekeeper ICBM is needed to redress the growing asymmetry between the hardening of Soviet high priority assets and our ability to place these assets at prompt risk. Our testing program remains on course. We are consistently exceeding accuracy specifications and we are pleased with the reliability of the missile as demonstrated by the successful flight tests to date. Construction is on schedule in the deployment area. Missile and basing production lines are underway and, in terms of funding, the program is about half complete. The Peacekeeper program is on target in terms of schedule and cost and we plan to achieve an initial operating capability in December 1986. We continue to believe in the near-term necessity for the Peacekeeper ICBM in terms of military capability and arms reduction negotiation leverage.

To enhance strategic stability, the Small ICBM program provides for decreased strategic target value with its single warhead and increased survivability due to its adaptability to various basing modes. The contracts for small missile system definition, missile technologies, and basing technologies were awarded last year to support a full scale development start in late 1986 or early 1987. With a planned nine-year development cycle, this program will challenge our development capabilities, and we are proceeding with an aggressive development schedule to overcome the major technical challenges of low missile weight, lightweight/accurate/responsive guidance systems, and hardened mobile launcher hardware.

Recent testing of advanced, superhardened silo designs has demonstrated levels of hardness that were previously believed to be unattainable. This break-through in silo hardening technology is still evolving and will be applicable to all future ICBMs. Yet harder designs are now being fabricated, and we expect further testing this year that should provide further evidence and assessments of the full potential of this technology.

STRATEGIC DEFENSIVE FORCES

About one-third of Soviet procurement for strategic forces has been for procurement of strategic defense systems (including ballistic missile and air defense but excluding civil defense). The Soviets have installed and maintained a large strategic defense force to defend against a large and diversified threat from many nations. It includes the world's most extensive air defense of the homeland consisting of thousands of radars and interceptor aircraft, and a limited ballistic missile defense of Moscow. It is estimated that over the past decade the dollar cost of Soviet strategic defense procurement have been more than the cost of U.S. strategic offense procurement. In particular, Soviet strategic air defense is estimated to cost much more than U.S. expenditures on strategic bomber procurement which, presumably, the Soviet air defenses are designed to counter.

The Soviet's strategic air and missile defense activities undergo constant modification and improvement. New generation Soviet SAMs, a new look-down/shoot-down fighter (FOXHOUND) and a new Airborne Warning and Control System (AWACS) platform are coming into service, along with new or modified anti-aircraft missiles. In ballistic missile defense they are now upgrading the interceptors around Moscow. Also nearing completion are six very large

radar sites located throughout the Soviet Union for early warning and possibly ABM battle management.

Our objectives in strategic air defense are to detect, identify, intercept and destroy enemy forces that might attack the U.S.

In atmospheric defense, we are working hard to upgrade our ability to provide timely, credible warning of Soviet bomber and cruise missile attacks. In the last 20 years, we have allowed our atmospheric defensive forces to wither. Years ago we had 2600 interceptors while today we have about 300. When we installed the Distant Early Warning (DEW) system many years ago, it was a wonder of modern technology. Today, even with upgrades over the years, it is obsolete technically and not as effective as required against modern air-breathing threats, and it is increasingly expensive to operate and maintain.

We have begun the long road back in these areas. We are supporting an aggressive deployment program for the Over-the-Horizon Backscatter (OTH-B) radar surveillance system, completing the deployment of 13 Minimally Attended Radars (MARS) in Alaska; beginning work on the North Warning System (NWS) to close low altitude coverage gaps, and improve radar performance on the DEW line, and continuing replacement of our aging F-106 air defense interceptors with the modern F-15 and F-16 fighters. Development of the North Warning System (which will replace the existing Dew Line) and Over-the-Horizon Backscatter (OTH-B) radars are intended to provide the National Command Authorities (NCA) with credible, timely tactical warning to increase survivability of strategic retaliatory forces.

For Ballistic Missile Tactical Warning/Attack Assessment, a network of sensors provide our National Command Authorities with ballistic missile attack warning and assessment. These sensors include space satellite systems; Ballistic Missile Early Warning System sites in Alaska, Greenland, and the United Kingdom; the Perimeter Acquisition Radar Attack Characterization System (PARCS) radar in North Dakota; sea launched ballistic missile detection and warning sites (PAVE PAWS) in Massachusetts and California; and the AN/FPS-85 and AN/FSS-7 sea launched ballistic missile detection radars in Florida.

The Ballistic Missile Early Warning System (BMEWS) modernization program is replacing existing 20-year old conventional radars at the Thule AB, Greenland, site with a new solid-state phased-array radar. The new system will become operational in late 1986. This will improve system performance and capacity and provide better pre-impact assessment.

To accommodate the increased Soviet sea launched ballistic missile (SLBM) threat, two new PAVE PAWS radars are now under construction in the southeastern and southwestern United States.

In space defense our Anti-Satellite (ASAT) program is back on track and schedule. We tested the Air Launched Miniature Vehicle (ALMV) late last fall against an infrared source. This year, after meeting the conditions directed by the Congress, we can begin testing against objects in orbit to determine the capability of ASAT to deter threats to U.S. and allied space systems by placing Soviet military satellites at risk.

The Strategic Defense Initiative Organization (SDIO) is now operating as an agency within the Department of Defense, with its Director reporting directly to the Secretary. The first year budget has been approved by the Congress. It will allow direct industry input into the ongoing definition of potential technologies and architectures which together are designed to provide a future president and Congress with sufficient data and concepts on which to base development and deployment decisions.

While the U.S. has long maintained some research activity on technology applicable to strategic defense, the Strategic Defense Initiative Organization (SDIO) will expand upon and focus relevant ongoing technology efforts being conducted by the military services, national labs, and technology-specialized agencies into one cohesive and coordinated whole. The SDIO is pursuing technology in five key areas--surveillance, acquisition and tracking; directed energy weapons; kinetic energy weapons; systems analysis and battle management; and a variety of support areas such as space electrical power, heavy lift launch vehicles, space weapons lethality, and spacecraft survivability.

NON-STRATEGIC NUCLEAR FORCES

While the Soviets continue their steady expansion in theater forces in every major category--tanks, artillery, helicopters, missiles, etc.--we, and our allies, continue to exercise considerable constraint. Since 1979, we have removed more than 2300 nuclear warheads. Our deployment of the new Pershing II and Ground Launched Cruise Missile (GLCM) is being done on a one-for-one basis. On the other hand, the Soviets have deployed about 400 SS-20 missile systems, each missile having three warheads, and reload capability.

The increasing Soviet nuclear threat makes our job in development of responsive non-strategic nuclear forces (NSNF) more difficult. These forces are essential because they show our firm resolve to defend our allies and deter the use of nuclear weapons by Soviet/Warsaw Pact forces in the event of a conflict.

We--along with our Allies--are only now beginning to upgrade our NSNF in response to the impressive force expansion by the Soviets. For several decades, our efforts have not kept pace. With the deployment of Pershing II and GLCM in 1983, however, we are beginning to reestablish our capabilities. The Pershing II, with a range of 1800 kilometers, is steadily replacing the shorter-range Pershing IA now in Europe. Deployment will be completed this year when a total force of 108 Pershing IIs will be operational.

GLCM, on the other hand, with its longer range of 2500 kilometers and slower response time also has improved capability and can be based farther rearward for increased survivability. GLCM will complete deployment by 1988 with 464 missiles in place. Pershing IIs are deployed in the Federal Republic of Germany while GLCM is deployed in the United Kingdom and Italy with future deployments planned in Belgium, the Netherlands, and in the Federal Republic of Germany.

The availability of a mixed cruise missile/ballistic missile theater nuclear force allows NATO planners to hedge against Soviet action directed at one of the systems. Even though NATO's nuclear stockpile will be at its lowest level in over 20 years, the addition of Pershing II and GLCM to our NATO deterrent force provide a leverage that is responsive to the Soviet threat.

Another notable NSNF development includes the modernization of the 155mm nuclear artillery projectile. The new round, designated the XM785, will have a significant increase in yield, in lethal effect against armor formations, improved accuracy to reduce collateral damage, and almost double the range of the old M454 shell it will replace. Our efforts this year will focus on performance testing of the rocket motor and fusing system along with long term storage tests. With continued support in the Congress, we can field this improved round before the end of the decade.

LONG RANGE FORCE PROJECTION

There are several new initiatives underway which could have wide application for force projection missions, from a show of force to theater-scale warfare. Conventional conflicts and subsequent U.S. involvement could come from a number of locations throughout the world, some of which are close to our shores. Missions could encompass both land-based and sea-based objectives such as defense suppression, interdiction, deep strike, ocean surveillance, sea line of communication (SLOC) defense, anti-surface warfare, and mine laying, etc. Such systems could also provide the platform for use of emerging technology (ET) weapons. The two specific initiatives are the TOMAHAWK sea launched cruise missile with its TOMAHAWK conventional anti-ship missile (TASM) and conventional land attack variants (TLAM/C) and the B-52 Strategic Conventional Standoff Capability (SCSC).

Operational testing is underway on TOMAHAWK with the TASM deployed aboard both ships and submarines and TLAM/C scheduled for initial deployment later this year. Our work in SCSC centers on determining the feasibility of existing sensors and weapons to enhance the conventional targeting capability of present and future strategic bombers. This would be accomplished through a prototype demonstration of both active and passive systems using a non-ALCM B-52 as a testbed. The work would also include an evaluation of our expanding arsenal of long-range standoff conventional munitions. Two squadrons of our B-52s will shortly be equipped with the conventional HARPOON anti-ship missile. Eventually the SCSC would permit a dedicated portion of our long range bomber

force to autonomously detect, track, identify, engage, and destroy mobile, fixed and maritime targets using conventional off-the-shelf munitions. The long range of our bombers permits their use worldwide in a matter of hours, while sensor technologies and standoff weapons permit them to remain outside the range of lethal defenses.

NUCLEAR WEAPONS

Goal

The goal of the nuclear weapons program is to provide and maintain a safe, survivable and effective nuclear weapons stockpile in support of U.S. national security objectives. Several initiatives are being pursued in support of this goal. We are continuing the design and production of nuclear weapons to support our strategic modernization initiatives and to replace obsolete weapons with new designs which are inherently more effective, safe, and survivable. We will retrofit selected stockpiled weapons with current technology to improve overall safety and command and control.

We are working with the Department of Energy to strengthen our nuclear weapons technology base. A national research program for assessing the climatic effects of nuclear war will be enhanced to reflect our level of concern. We are also developing long-range plans that will allow us to meet future defense needs, when considering the constraints of limited resources or potential requirement changes that could result from either a major nuclear threat increase, technological surprise, a new arms control agreement, or a change in national strategy.

Major Achievements

An example of our progress during the past year is the continuation of the nuclear weapons modernization program in cooperation with the Department of Energy. The GLCM and Pershing II nuclear weapon systems were also successfully deployed.

Additionally, increased emphasis has been placed on nuclear weapons survivability. We are using the NATO senior level management groups, previously established to address nuclear weapon security, as a forum to also raise survivability issues. Survivability of all new weapons systems which may be required to operate in a nuclear environment is also receiving more attention. The Defense Nuclear Agency has been assigned the role of assisting the Services, agencies, and OSD to insure the improved survivability of new systems.

The biannual Nuclear Weapon Development Guidance process leading to a report in 1985 began with technical advisory team visits with the CINC's and Services to identify nuclear weapon requirements for the 1990's. To complement this activity, working groups with representation by the Services and DoE national laboratories have been established to address specific nuclear weapon topics that would clarify future needs.

Also, improvements in the nuclear weapons development process were made and documented this past year. The Supplement to the 1953 Agreement for the Development, Production, and Standardization of Atomic Weapons between the DoE and the DoD was updated to provide procedures for formal design definition and cost studies. The implementing DoD Directive was also revised to promulgate the changes.

A memorandum of agreement (MOA) between the Department of Defense and the Department of Energy for a joint program of strategic defense research and technology development was approved this year. The steering committee formed by the MOA will ensure that the DoE advanced research activities will be fully integrated into the DoD managed SDI program.

Technology Demonstration

The Defense Nuclear Agency (DNA) is developing new technologies to assure continued force survivability in the face of increasingly more accurate and larger yield Soviet missiles through the Advanced Silo Hardening and Hardened Mobile Launcher research programs conducted jointly with the Air Force. Also, execution of the major underground nuclear effects tests, MIGHTY OAK and MIDDLE NOTE, and construction of MISSION CYBER and MINERAL QUARRY, will directly support advanced systems development such as the MX-5 reentry body and the

TRIDENT II D-5 missile system. In addition, DNA will conduct a joint demonstration of the capabilities that can be achieved on a Strategic Air Command mobile command post using Defense Communications Agency shelters, computers, and communications. Given the diversity and sustained growth of the Soviet nuclear and conventional threat, a substantial weapon effects testing and survivability program is required to assure meaningful deterrence in the future. Continuation of DNA research programs will lead to a more survivable and more capable force.

Climatic Effects

In 1983, the DoD expanded research on a broad range of issues associated with the long-term global climatic effects of multiple nuclear bursts. This program supports research on several fronts and at numerous government laboratories, universities, and contractors.

This program emphasizes research in smoke and dust source terms, large-scale fire characteristics, particulate lofting, the chemical kinetics of fires and fireballs, and climatic effects.

Current Objectives

In future years we must fully consider total weapon system cost and performance in establishing military requirements and design objectives for nuclear weapons. We must also define the character of the future stockpile in view of improved weapon systems capabilities and changing requirements. It is also essential that we continue to improve upon the survivability and endurance of our forces and support infrastructure--both in CONUS and abroad. We also plan to determine the feasibility and suitability of applying nuclear directed energy technology to specific weapons applications. Finally, the modernization of our capital plant and infrastructure for nuclear weapons and weapons materials research, development and production must continue.

CHALLENGES AND OPPORTUNITIES

The greatest challenge facing U.S. strategic forces is maintaining our country's will to stay the course in modernizing our forces. We are faced with a formidable adversary who possesses steadily increasing capabilities, yet is rarely subject to changing military strategy or wide variations in funding. The Soviets are not content to maintain comparability but are dedicated to obtaining and maintaining clear military superiority. In response, we cannot afford a changing commitment to defense over time. We have a program for modernizing our strategic forces--proposed by President Reagan in 1981--and we now need the continuing commitment to bring that program to fruition in the years ahead.

TACTICAL WARFARE PROGRAMS

This chapter presents the broad goals and objectives, achievements and management focus of our tactical warfare Research, Development and Acquisition Programs relating to our General Purpose Forces.

Soviet tactical warfare capabilities have steadily expanded over the last 30 years. They have invested substantially more than the U.S. in the development and procurement of increasingly capable tactical warfare systems. Soviet ground force divisions have been enlarged and equipped with the most modern tanks, artillery and helicopters. Their theater nuclear capability has undergone extensive modernization and expansion with the introduction of the improved SS-12 and new SS-20, -21, and -23 missiles. They have also recently enlarged their SCUD short range ballistic missile forces in East Germany. Soviet air forces are being modernized with high performance aircraft. Soviet air defense comprises a large variety of modern antiaircraft guns and surface-to-air missile systems. Soviet naval forces continue to receive larger and more lethal ships and submarines together with their weapons.

TACTICAL WARFARE GOALS/OBJECTIVES

The tactical warfare mission area programs are structured so as to modernize and fully equip our General Purpose Forces. This is essential in order to assure full and expedient achievement of our conventional force requirements and planning goals. As the initial priority, our General Purpose Forces must help deter premeditated aggression by denying potential aggressors confidence in their ability to achieve success by conventional means alone. Second, should deterrence fail, the General Purpose Forces should be capable of successfully forward-defending in Europe against a conventional attack without being forced to use nuclear weapons. Finally, these forces must be capable of sustaining a cohesive forward defense that will frustrate the success of additional attacks and cause cessation of aggression and withdrawal. Implementation of these conventional defensive planning goals requires the continuing assessment and prioritization of our programs against four principal objectives. These broad-based objectives are: (1) the achievement of a military posture in conventional forces that balances force structure, modernization, readiness and sustainability; (2) improvements to our defensive and retaliatory posture so as to deter attack; (3) the ability to exert a stabilizing influence in those areas of the world that are deemed of vital interest to the U.S. and our Allies; and (4) the development and acquisition of materiel capable of being effectively used in combat across the full spectrum of possible conflicts.

TACTICAL AIR WARFARE

U.S. tactical air forces are the tactical aviation of the Air Force, Navy and Marine Corps and the attack helicopters of the Army. The Soviets' tactical air forces include Aviation of the Military Districts and Groups of Forces. Additionally, Soviet Naval Aviation, medium bombers in strategic aviation, and military transport aviation contribute to these capabilities.

The Soviets recently have reorganized their fighter aviation elements, merging the interceptors and tactical fighter/attack aircraft in most land areas on the Soviet border. This new centralized control of fighter type aircraft is expected to permit greater flexibility in the offensive and defensive orientation of the overall force structure. Gradual modernization of some former strategic defensive units with potentially multi-role aircraft (e.g., Flogger in place of Flagon) also suggests that Soviet tactical capabilities will be increased as a result of the reorganization. However, basing and training limitations will constrain the ability of the Soviets to allocate and effectively use interceptor forces in a theater campaign.

A summary of tactical aircraft produced from 1975 to 1984 is shown in Table V-1.

U.S. tactical aircraft production in the last decade has been substantially less than that of the USSR. A comparison of U.S./USSR tactical combat aircraft inventory value is shown in Figure V-1. Inventory value is the average unit procurement cost of aircraft in the combat units multiplied by the number of aircraft in the operational combat units.

Table V-1. PRODUCTION SUMMARY OF SELECTED TACTICAL AIRCRAFT FOR NATO AND WARSAW PACT COUNTRIES

CATEGORY	1975-1984 ANNUAL AVERAGE				1984				10-YEAR TREND	
	USSR	US	WP	NATO	USSR	US	WP	NATO	USSR	US
FIXED-WING COMBAT*	820	360	940	700	640	250	690	640	↓	↓
ROTARY WING										
Attack Helicopters	210	40	220	180	250	16	250	120	-	-
Other Military Helicopters	390	110	560	330	350	200	400	375	-	↑

*Includes all interceptors.

Because of the procurement of more fixed wing aircraft and helicopters than the U.S., and the increasing capability of these aircraft, the Soviet tactical aircraft inventory value has increased much faster than that of the U.S. and appears to have exceeded that of the U.S. during the past decade. Since TacAir is an area in which we expect to have an advantage, this trend is a matter of concern.

The Soviets have been experimenting with new air tactics over the last five years. They are developing training for a variety of new missions, including fighter escort, use of electronic countermeasures (ECM), maneuvering air combat, independent search missions and air accompaniment of ground forces.

Their new fighter aircraft, the MIG-29/Fulcrum and the SU-27/Flanker, are supersonic, all-weather counter-air fighters with look-down/shoot-down weapon systems and beyond-visual-range air-to-air missiles. These aircraft may have a secondary ground attack role. The Fulcrum in particular may have a true dual-role capability similar to that of the U.S. F-15E, F-16 and F/A-18. The MIG-29/Fulcrum became operational during 1984 and the SU-27/Flanker is expected to follow during 1985. The increasingly sophisticated nature of new Soviet aircraft apparently has delayed their initial production, but we anticipate large-scale series production of both in the immediate future.

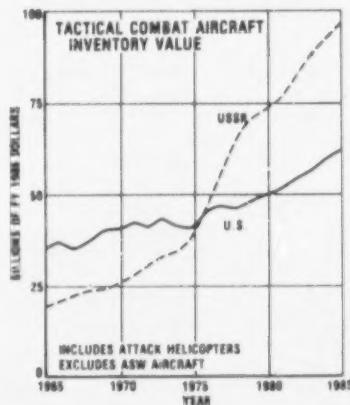


Figure V-1. A COMPARISON OF TACTICAL COMBAT AIRCRAFT INVENTORY VALUE OF THE U.S. AND USSR

Soviet air forces in the NATO central theater have by far the highest percentage of modern aircraft--over 90 percent of their inventory--because the Soviets perceive that this theater faces the strongest enemy and the most dense and complicated target array. The air assets in this region number about 3,000 aircraft and include every operational Soviet airframe except the Foxhound.

The Soviets have expanded their inventory and use of attack helicopters with some assets being utilized by Air Defense Forces as low level interceptors.

Significant progress has been made during the last year in our efforts to upgrade the weapon systems of U.S. tactical air forces. Sufficient F/A-18 aircraft were acquired to permit the first operational Navy and Marine F/A-18 squadrons to be deployed last year. The fielding of the F-16 continued at economical production rates with the procurement of 144 aircraft. The F-16 program also realized the delivery of the first F-16C, under a production block change that yields F-16 fighters with enhanced avionics. The Department also initiated delivery of the F-16 to the Air Force Reserve and Air National Guard. With an eye to the future, the F-14D development effort was initiated which will upgrade the F-14 with new engines and a new radar. This upgrade will permit the F-14D to contend with the expected threat in the 1990-2000 time-frame. In 1984, we also started full scale development of the F-15E dual role fighter which will upgrade the night attack as well as the range/payload strike capability of our tactical air forces.

To complement our efforts on fighter aircraft, significant progress was made in the development and deployment of modern armaments for fighters. The Laser HELLFIRE missile successfully completed first production article acceptance testing. The Imaging Infrared MAVERICK successfully completed the initial series of operational effectiveness tests, and the Imaging Infrared guided GBU-15 bomb successfully completed development, test and evaluation. In the same period, the television guided GBU-15 successfully completed follow-on operational test and evaluation. Also continued during the past year was the production and deployment of the SPARROW, SIDEWINDER, and PHOENIX air-to-air missiles. The production and deployment of the High-Speed Anti-Radiation Missile (HARM) continued and progress toward more efficient production rates proceeded on schedule. Because of the more efficient production plans established in 1984 and other cost control measures, we achieved a 20.4 percent reduction in average unit procurement cost of the HARM.

NAVAL WARFARE

Measured by numbers of ships and procurement expenditures the United States and its allies maintain a favorable balance of maritime power. During the past 25 years, however, the Soviet Navy has conducted a significant, sustained modernization program that has steadily improved its combat capabilities. In fact, one of the dramatic military developments of the post-World War II period was the appearance of the Soviet Navy on the world's oceans beginning in the early 1960s. Previously, the Soviet fleet spent virtually all its time in port or in home waters, with poor levels of training. Although Soviet naval activity has increased markedly since then, we remain confident of the qualitative superiority of the U.S. fleet in training and material readiness for war.

The magnitude of the Soviet shipbuilding program is evident in Table V-2. They are producing about the same number of major surface combatants as the U.S., although they do not have the sea lane defense requirements of the U.S. Navy.

Figure V-2 compares major surface combatant inventory value. It shows the inventory value of Soviet major surface combatants has steadily increased for the past 20 years as a result of their persistent, sustained program. Figure V-3 compares the inventory value of attack submarines. It shows that the higher production rate of Soviet submarines has resulted in a steadily increasing force of substantially greater inventory value than the U.S.

Table V-2. PRODUCTION SUMMARY OF NAVAL VESSELS FOR NATO AND WARSAW PACT COUNTRIES

CATEGORY	1975-1984 10-YEAR TOTAL				1984				10-YEAR TREND	
	USSR	US	WP	NATO	USSR	US	WP	NATO	USSR	US
Major Surface Combatants	90	85	107	192	7	8	10	17	--	--
Amphibious Ships	20	5	33	7	1	0	1	0	--	--
Attack Submarines	65	28	65	61	6	5	6	8	--	--

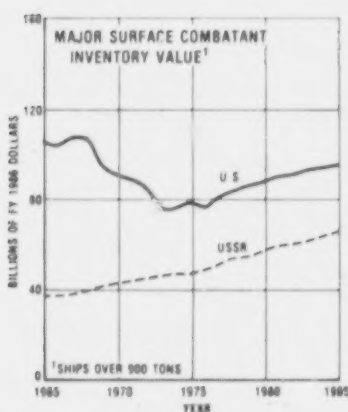


Figure V-2. A COMPARISON OF THE MAJOR SURFACE COMBATANT INVENTORY VALUE OF THE U.S. AND USSR

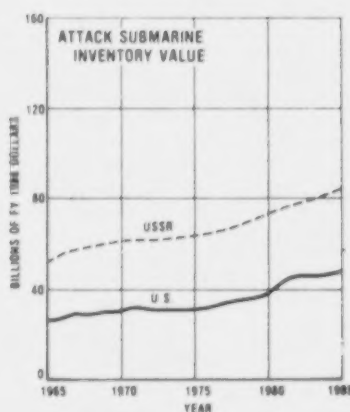


Figure V-3. A COMPARISON OF ATTACK SUBMARINE INVENTORY VALUE OF THE U.S. AND USSR

In the past two years, two new classes of nuclear powered attack submarines were launched by the Soviets--MIKE and SIERRA, and another new class has appeared in Pacific waters. The diversity of the Soviet submarine force is complemented by continuing production of the diesel-powered Kilo class attack submarine.

The Soviets have begun construction of a large aircraft carrier (60,000 tons displacement). As described last year, completion is expected at the end of the decade. The second nuclear-powered guided missile cruiser, *Frunze*, has joined the Northern Fleet and a third ship of the class continues under construction on building ways in Leningrad.

The Soviets have elected not to develop an underway replenishment ship force commensurate to an offensive surface role in the open oceans against major opposition, and their surface combatant force includes only a few ships (Kirov and Slava classes) with the new SA-N-6 anti-air area defense system. Accordingly, we continue to regard the attack submarine force and the long-range, missile-armed land-based bomber force as the principal threats to U.S. maritime forces.

Three important initiatives in our naval warfare mission area typify the progress made to improve overall maritime force capability. Concern for the

defense of our overseas bases, forward deployed battle groups, and sea lanes against air and surface threats has led us to examine our ability to detect and track these threats over oceans and littorals vital to our maritime interests. Our evaluation shows we need surveillance sensors that can cover broad areas nearly simultaneously to fulfill our defense goals. Because such broad defense involves forces and systems that are multi-service and multi-national, DoD manages the effort through the Broad-area Surveillance Executive Committee (BSEC) chaired by the Principal Deputy Under Secretary of Defense for Research and Engineering. The BSEC has made recommendations to achieve the best balance among maritime surveillance programs such as over-the-horizon radars (OTHRs), conventional line-of-sight microwave radars, and spaced-based assets. Where appropriate, initiatives with allies have begun through BSEC auspices.

The second initiative involves Maritime Anti-Air Warfare Investment Planning. The Maritime Anti-Air Warfare Investment Planning Group was chartered by The Deputy Secretary of Defense to develop an investment strategy to effectively respond to the air threat to maritime forces. The investment strategy comprises a comprehensive review of both land and sea based forces in broad maritime regions, such as the Norwegian Sea, Mediterranean and Northwest Pacific. The Group has reviewed maritime anti-air warfare issues and has recommended a general plan for the development of naval surface-to-air missiles that was presented to Congress by the Secretary of Defense in early 1984. The plan covers threat responsive items of interest to both Congress and the Services. In concert with the Services and the Unified Commands, the Group has outlined the elements most significant to a broad strategy for regional maritime air defense. The strategy would provide for a more effective defense of key land and sea assets in the vital maritime regions through the reinforcing combination of land-based and sea-based forces.

The third important initiative in the naval warfare mission area is concerned with the new class of submarines. In support of the new U.S. attack submarine, we are reviewing the Navy's analytical support of the ship's design characteristics in relation to its proposed missions. The ship's characteristics indicate that the submarine will represent a major step in retaining our qualitative edge in submarine and anti-submarine warfare.

LAND WARFARE

Since 1965 the Soviets have made steady quantitative and qualitative improvements in their ground forces. USSR investment in land force equipment has increased steadily for the past 20 years. The U.S., in the 10 years following the Vietnam War, reduced its land force procurement expenditures more than two-thirds, and only now have U.S. land force procurement expenditures returned to needed levels. As a result of erratic U.S. priorities and budgets for land force procurement, the Soviets appear to have spent roughly twice as much as the U.S. for land force procurement during the past ten years.

The quantities of major categories of land force weapons produced in this period are tabulated in Table V-3. The Soviet and WP advantage is substantial.

Table V-3. PRODUCTION SUMMARY OF SELECTED LAND FORCE SYSTEMS FOR NATO AND WARSAW PACT COUNTRIES

CATEGORY	1975-1984 ANNUAL AVERAGE				1984				10-YEAR TREND	
	USSR	US	WP	NATO	USSR	US	WP	NATO	USSR	US
Tanks	2200	640	2350	1100	3000	770	3300	1520	↑	↑
Other Armored Vehicles	4600	680	5460	1823	4200	1150	4575	2300	—	↑
Infantry Combat Vehicles	2900	150	3120	320	3600	600	3675	750	—	↑
ABTV, Mortars & Rocket Launchers* (100mm and over)	2100	150	2450	450	3300	280	3050	460	↑	↑
Anti-Aircraft Artillery	110	4	290	444	50	40	175	190	↓	↑

*Does not include direct fire weapons.

The Soviet tank force has been undergoing a major upgrade since the mid-1960s with the introduction of the T-62, T-64, T-72 and T-80 tanks. The T-80 tank features nuclear, biological and chemical protection and enhanced firepower and survivability. Also the Soviets are pursuing a comprehensive program of upgrading and expanding the artillery fire support available to ground forces. Several new artillery pieces, some of which are nuclear-capable, and new multiple rocket launchers have been introduced in the past few years.

Two accomplishments in the land warfare mission area are particularly noteworthy. The air defense of NATO Central Europe has received a heavy emphasis within this mission area during the past year. An historic agreement was concluded between the United States and the Federal Republic of Germany which will greatly strengthen the air defense posture in the NATO central region. The Memorandum of Understanding for Cooperative Measures for Enhancing Air Defense for Central Europe has as its purpose the enhancement of NATO Central region air defenses. There are two major parts to the agreement. The first is an arrangement in which the United States provides fourteen Patriot tactical fire-units to Germany. In return, Germany will operate twelve U.S. Patriot fire units for ten years. Further, Germany will operate for ten years 27 Roland air defense units at three USAF bases in Germany. Germany will also fund agreed efforts to improve further NATO air defense. In addition, but not related to this agreement, Germany will purchase and operate an additional 68 Roland fire units to be deployed at German bases, some of which are USAF collocated bases. The second part of the agreement involves a German purchase, through Foreign Military Sales procedures, of an additional fourteen Patriot fire units. Included in the agreement is a provision for establishing a common logistics capability in NATO Europe to support the Patriot systems deployed in Germany. It is anticipated that logistics costs will be reduced and the combat readiness of the NATO deployed Patriots will be increased by implementing this common logistics system.

Another activity which was accomplished within our land warfare mission area involved the development of the initial version of the Antiarmor Master Plan. It is anticipated that this document will be updated periodically and thereby include new alternatives and options as technology and threat requirements evolve. Despite initial Congressional concern over the Antiarmor Master Plan, this document represents an important first step in a process whereby major antiarmor decision issues can be assessed in a coordinated and timely manner by the responsible components of the Department.

CONVENTIONAL INITIATIVES

New technologies now available can provide our air-land battle forces with radically new, major force multiplier systems for defeating armored attacks. We are developing systems to apply this technology that will be able to locate and track stationary and moving targets at distances of hundreds of kilometers. Intelligence and fire-control information from multiple sources will be processed by automated systems and distributed to tactical commanders for targeting decisions. Targets will be attacked by aircraft and ground launched missiles that deliver a variety of munitions, including terminally dispensed lethal submunitions.

Programs that emphasize extended-range target acquisition and deep-attack capabilities include the Joint Surveillance and Target Attack Radar System (Joint STARS), the Joint Tactical Fusion (JTF) Program, and the development of a family of tactical missile systems (JTACMs). Joint STARS is the airborne radar system, being developed jointly by the Army and Air Force, which will be able to locate and track moving targets at extended ranges. Drawing on the information it provides, our forces will be able to use their weapon systems to strike targets throughout the battle area, including those deep behind enemy lines.

The Joint Tactical Fusion Program is a computer-based system which will process, analyze, and distribute intelligence reports obtained from multiple sources. This information will assist battlefield commanders in assessing the status and disposition of enemy forces and selected targets. We are developing a ground attack control center that will provide direct real time targeting data for battle execution.

The family of joint tactical missile systems, being developed by all the Services, will be able to dispense terminally guided and unguided submunitions at targets deep behind enemy lines. Corps equipped with JTACMS will be able to provide support to adjacent corps. It will exploit the long-range vision of our forces to direct attacks against enemy follow-on forces, air defense systems, command and control centers, and other interdiction and stand-off attack targets. The Joint Requirements and Management Board (JRMB), recently established by the DoD, contributed here by being able to develop Service consensus on a more focused development program for tactical stand-off missiles.

CONVENTIONAL MUNITIONS

During the past year we significantly increased the DoD thrust in modern conventional munitions through the Munitions Council. The Council, chaired by the USDRE, and comprised of the senior decisionmakers from the OSD staff, the JCS, and the Services, undertook the task of assessing the current munitions mix. As a result of Council deliberations, specific recommendations on ways to develop a more affordable and effective munitions mix were developed and presented to the Deputy Secretary of Defense. Emphasis was placed on enhancing our warfighting capability during the early days of a conventional conflict. A three part plan was developed that identified selected producible modern munitions for accelerated procurement; recommended specific product improvement programs for munitions currently in the inventory; and identified a number of R&D programs to build the basis for our next generation smart munitions. Subsequently, the Deputy Secretary of Defense has directed a number of budget actions in both munitions R&D and procurement that will significantly enhance force readiness and sustainability in the near term, and capitalize on our advanced munitions technology enabling a credible far term capability.

SPECIAL OPERATIONS

The significant accomplishments achieved in the special operations forces mission area include: continued enhancement of infiltration/exfiltration capabilities through continuing upgrades of Combat Talon I and acquisition of Combat Talon II aircraft; completion of studies which defined requirements for special operations peculiar equipment, such as secure communication equipment; and proceeding with development efforts for several highly specialized and unique systems such as the Swimmer Delivery Vehicle. In addition, we are continuing the program begun last year to develop and demonstrate technologies appropriate for use in low-intensity conflict.

MOBILITY

The mobility mission includes airlift, sealift and military port operations. The Soviet Union, for decades a continental military power, is developing an increasing capability to transport personnel, arms and equipment to any area of the world. Almost all of this is an airlift capability with some amphibious assault ships. No Soviet sealift force is known to exist as a separate entity from their large number of commercial ships. The Soviets depend primarily on the large USSR merchant fleet for strategic sealift. The U.S. with its many forces and obligations overseas and a need to reinforce and resupply them over great distances by sea and air has a greater requirement for mobility forces than the Soviet Union.

The objectives of DoD's mobility RD&A program are to provide sufficient assets (i.e., airlift, sealift, surface transportation, prepositioning, intermodal cargo transfer equipment, air refueling and supporting command, control and communications) to meet U.S. deployment and resupply objectives in a timely manner.

Progress has been made in quantifying our needs for the various mobility assets (e.g. the DoD Sealift Study) and further studies are underway (e.g. the Worldwide Intratheater Mobility Study). Many programs have been initiated to increase our mobility capabilities, and we are gradually closing the gap between our objectives and capabilities.

In intertheater airlift, for example, our capability will increase from 33 million ton-miles/day (MTM/D) at the end FY 1985 to 51 MTM/D by the FY 1990 funded delivery period, towards our goal of 66 MTM/D which will be met in the

late 1990s. Major programs underway in airlift include: C-5A wing strengthening, procurement of 50 C-5Bs, Civil Reserve Air Fleet (CRAF) enhancement, full scale engineering development of the C-17A inter/intratheater airlifter and acquisition of 44 additional KC-10As (air refueling/cargo aircraft).

Sealift programs include expansion of the number of ships in the Ready Reserve Force, conversion of eight fast sealift ships to Roll-On Roll-Off configuration, and modification of container ships to be able to carry tracked vehicles, and other unit equipment.

Our prepositioning program includes the expansion of our Pre-positioning Of Materiel Configured in Unit Sets (POMCUS) to six division sets in Europe, development of prepositioning and staging base initiatives for Southwest Asia, and construction/conversion of Maritime Prepositioning Ships for three Marine amphibious brigades. A variety of acquisitions to improve unloading ships and aircraft (e.g., TACS crane ships, floating causeways, and aircraft cargo handling equipment) are also underway.

In intratheater mobility we are acquiring additional line haul ground vehicles, and are increasing the wartime utilization rate of some of our C-130 aircraft by increasing spares procurement.

The Joint Deployment System, the Transportation Coordinator Automated Command and Control Information System and other computer based systems will enhance our capability to plan and execute deployments. Improvements in long range communications for airlift and sealift will permit greater control and survivability of these assets in wartime.

CHEMICAL WARFARE DETERRENCE

Goals

Our national goal is to eliminate the threat of chemical and biological warfare (CBW) by achieving a complete, verifiable ban on chemical weapons and by strengthening the verification and compliance provisions of existing agreements. Until our goal can be achieved, we are attempting to reestablish a credible military deterrent to chemical warfare. The following initiatives are being pursued:

- o Equipping and training U.S. forces with protective systems to allow sustained operations in a CBW environment, while reducing the degradation in individual and unit performance imposed by protective systems and procedures.
- o Supplying U.S. forces with the capabilities to treat casualties in an integrated nuclear, biological, chemical and conventional combat environment.
- o Reestablishing the capability to retaliate effectively with chemical weapons to deny an aggressor a significant military advantage from CBW first use.
- o Developing and implementing a program to safely demilitarize chemical munitions and agents.

Major Achievements

We continue to exercise leadership in Administration efforts to eliminate the threat of CBW through arms control and improved deterrence. We participated in the preparation and presentation of the U.S. Draft Convention on the Prohibition of Chemical Weapons at the Conference on Disarmament.

Significant progress continues to be made in CBW protection. This remains a thrust area in our technology base programs, especially in the efforts to improve medical protection. In FY 1986 we will further improve readiness by increasing stocks of protective items, and we are modernizing by acquiring improved items for all Services.

A second full scale chemical weapon demilitarization facility was approved by Congress for FY 1985. This facility, to be located at Johnston Atoll, will

be for the disposal of obsolete, deteriorating chemical rockets initially, and other munitions in the future when additional equipment is authorized. The planning/approval process has been initiated for facilities to dispose of rockets stored at other locations.

Development of the BIGEYE binary chemical bomb is proceeding successfully, and developmental testing is to be completed in mid FY 1985, with operational testing to be completed in FY 1986. Development programs are continuing on a stand-off delivery system to provide a new force capability.

Doctrinal improvements have been made or are underway in the chemical protection and employment areas. A Joint Chemical Test Project (JCHEM) has been established to evaluate and improve procedures, and we are continuing to place strong emphasis on chemical warfare related training.

Current Objectives

The FY 1986 chemical warfare deterrence program would use more than 70 percent of the funds requested of Congress to improve our CBW protective capabilities. An additional 10 percent of the program funds will continue efforts to safely demilitarize chemical munitions and agents. The remaining funds, although relatively small would reestablish a critically needed credible chemical retaliatory capability required to ensure deterrence and provide an incentive for conclusion of an effective ban on chemical weapons.

Recognizing the lack of agreement within the nation on proceeding with our chemical warfare retaliatory capabilities modernization, we are strongly supporting the Presidential chemical warfare review commission required by the FY 1985 authorization act. We are hopeful that this commission will provide the catalyst to achieving a national consensus on this critically important issue.

CHALLENGES AND OPPORTUNITIES

Looking to the future, the major goal of our efforts to improve tactical air power continues to be the maintenance of a capability to endure and achieve air superiority over any future area of operations. In view of the vigorous efforts the Soviet Union continues to make to deny us this capability for air superiority, the Department of Defense must work for steady improvement of our tactical air forces. This task can only be accomplished if adequate resources are planned and provided for many years to develop the improved systems that will be essential in the 1990s and beyond.

In naval warfare, perhaps the greatest technical challenge still lies in defeating air, surface, and submarine-launched missiles. It is important to counter the platforms prior to missile launch, in addition to having the capability to destroy the missile after launch. In so doing, it is necessary to develop naval tactics which combine land-and sea-based assets to counter the air threat to the fleet. The accomplishment of this task will require the maximum use of high technology and joint planning and testing in the areas of sensors, guidance, propulsion, counter-targeting electronic warfare, and a complementary hard kill/soft kill approach.

The challenges and opportunities which face the land warfare mission area include the establishment and promulgation of programs required to counter the Soviet's tactical ballistic missile (conventional, chemical, and nuclear) and decisive offensive chemical warfare advantage, and to provide capability to disrupt and curtail enemy airfield operations and to attack Warsaw Pact follow-on forces. Early disruption of operations at Warsaw Pact airbases would greatly reduce their ability to launch sustained air attacks against NATO land targets. Hostile follow-on forces will be effectively attacked to ensure that unfavorable force ratios do not result from attrition inflicted on NATO ground forces by the first echelon.

DEFENSE WIDE INITIATIVES

In this chapter the achievements, objectives, and accomplishments of the remainder of the major Research, Development and Acquisition Program are discussed. Specific programmatic detail (cost, quantity, schedule) is available in the descriptive summaries provided separately.

COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C³I)

Goals/Objectives

Within the C³I mission area our goal is to support the entire range of military missions. C³I systems must enhance the inherent deterrent capabilities of both the offensive and defensive strategic forces. They must provide our commanders, at all echelons, with accurate, timely and credible information, provide a means to process, display and evaluate data and, of course, provide our commanders with the capability to transmit orders and decisions to our forces and weapon systems. Those non-nuclear C³I systems that are of special importance to OSD perform functions necessary to carry out cross-Service, joint-Service and warfare missions in conjunction with our allies. Hence, our overriding objective here is to ensure that systems planning, architectural development and the need for program stability are considered by the Military Departments and Agencies.

While we still need to ensure that our C³I assets function throughout all stages of conflict, we also must deny our adversaries the benefits they gain by disrupting our C³I systems and by using their own capabilities with impunity. Thus, the C³I mission area goals also include the development of effective electronic warfare and C³ countermeasure systems.

Major Achievements

Strategic and Non-Strategic Nuclear Forces

Our major achievements in support of President Reagan's modernization program for strategic C³ are described within the strategic forces section of this report. In addition, during FY 1984 the Army awarded the Regency Net contract to update the communications connectivity for non-strategic nuclear forces in Europe.

The last of the 34 Airborne Warning and Control System (E-3A) aircraft was delivered to the Air Force in June 1984. In addition to these, 16 of the 18 aircraft on order for NATO were delivered by the end of CY 1984. These aircraft have added a significant air surveillance and command and control capability for U.S. and allied forces and have been deployed to trouble spots throughout the world. During FY 1984 two additional research and development satellites were placed into orbit to support user equipment testing for the Global Positioning System. The initial operational test and evaluation for this equipment started late in FY 1984 with a DSARC III decision (production) point scheduled for early FY 1986.

Theater and Tactical C³

We continue to implement our tactical anti-jam communications architecture plan which was delivered to the Congress during FY 1983. Initial deliveries of Air Force and Army Class 2 Joint Tactical Information Distribution System (JTIDS) full scale development terminals began in March 1984. Formal development and operational testing is scheduled for FY 1985 with initial procurement in FY 1987. This will allow us to meet the goal of fielding JTIDS in all four Services by 1989. We continue also to work toward the adoption of JTIDS as the basis for the NATO Multifunctional Information Distribution System. A DSARC level review held in June 1984 directed that additional interoperability modes between the Enhanced JTIDS System (EJS) and JTIDS be implemented, and design tasks necessary to accomplish this were begun. The deployment goal for EJS is to commence fielding in the Air Force in 1989.

As a key part of our tactical anti-jam communications architecture, we continue to field radios modified to provide a near-term, jam resistant operational capability (HAVE QUICK). We are also continuing to develop improvements to the HAVE QUICK system (HAVE QUICK II) to extend its useful life. These initial improvements will be fielded during FY 1986. During early

FY 1985, HAVE QUICK also became the first ECQM system to obtain frequency support in NATO Europe. It will provide a significant operational capability into the 1990s, including interoperability with our allies who have already committed (or will commit in the future) to buying HAVE QUICK.

During FY 1984, major advances were made in the Mark XV portion of the Combat Identification System. The requirements for the system were firmly established by a Multi-command Required Operational Capability for the Next-Generation Question and Answer Identification Friend-or-Foe System, which was endorsed by all Commanders-in-Chief (CINCs), Services and Agencies. Here again, the recently chartered JRMB was able to expedite Service agreement (June 1984) to proceed to the next Mark XV program phase. A major program milestone was achieved when a DSARC I (Demonstration & Validation) review of the Mark XV was held in July 1984. As a result, the Secretary of Defense directed the Services to proceed into the next phase of development on an accelerated basis, to achieve DSARC II (Full Scale Development approval) and begin Full Scale Development in 1987. NATO interoperability is also being pursued on a Quadrilateral basis (US/UK/GE/FR), with the UK and France already expressing a willingness to accept the US proposed compromise.

To provide improved communications for the land forces, we have contracted for the Single Channel Ground/Airborne Radio System (SINGARS) for fielding starting in FY 1986. We have initiated the procurement of the Mobile Subscriber Equipment by proposing the acquisition of proven, off-the-shelf equipment. During FY 1984 we received delivery of the final large switch used to route and deliver tactical military messages (AN/TYC-39). The procurement of the complementary large circuit or voice switch (AN/TTC-39) is about 50 percent complete. Contracts for the Communications Nodal Control Element and the Tactical Digital Facsimile also were awarded.

Defense-Wide Communications and Information Systems

In September 1984, the Defense Data Network completed physical separation of the existing ARPANET into an unclassified Military Network and an experimental network. The Inter-Service/Agency Automated Message Processing Exchange program for the replacement of message processing facilities at the base, post, camp and station level received vendor proposals in October 1984 with an anticipated multi-vendor contract award targeted for mid 1985. The Blacker end-to-end encryption program will also be in its major development phases from FY 1985 through FY 1987.

The World-Wide Military Command and Control System Information System will provide increased crisis management capability to the National Command Authorities. Two major contracts were structured and awarded so that near term technical and functional enhancements would be provided to the users immediately.

The NORAD modernization activities have included development efforts for the communications segment, testing of the initial equipment to support the Space Defense Operations Center, and the initiation of replacement activities for the processing and display system.

The first LEASAT leased communications satellite was launched during August 1984, is on station over the US and is meeting all operational goals. The second was launched in November 1984. Two additional LEASATs are scheduled for launch during FY 1985. The first Defense Satellite Communications System (DSCS) anti-jam network, using the latest technology DSCS III satellite, was activated during FY 1984 and is undergoing final testing. The new DSCS III satellites will support the Jam Resistant Secure Communications requirements in addition to other high priority command and control user needs. The DSCS III satellite multiyear procurement contract was awarded in November 1984 providing substantial savings over an annual procurement.

Electronic Warfare and C³ Countermeasures

Major strides during FY 1984 included the first delivery of an engineering development model of the jointly developed (Air Force/Navy) Airborne Self-Protection Jammer. The EA-6B aircraft buy was increased from six to eight and its Advanced Capability enhancements entered Full Scale Development, as did the Navy's Communications Jammer, AN/ALQ-149. A Memorandum of Agreement has been established between the Navy and Air Force for Radar

Warning Receivers and Integrated Electronic Warfare Systems. These are necessary first steps to ensure our future developments in both these areas are economical and interoperable.

Defense-Wide Intelligence

Significant advancements in intelligence support to our military forces to meet our worldwide commitments, along with an expanded role for integrated planning, highlight Defense-Wide Intelligence activities in FY 1984.

We are rapidly upgrading our support to the theater commands through the fielding of new or improved intelligence support systems. For example, the TR-1 aircraft with appropriate sensor suites is being fielded. Also, the Improved Guardrail V and Trailblazer systems are being fielded with Army units which will significantly enhance their signal intelligence support capabilities.

In the area of intelligence training we have actively pursued improvements to the Defense Language Institute, the Navy-Marine Corps Intelligence Training Center and various Army and Air Force facilities for training of the operation and maintenance personnel associated with our intelligence activities.

Challenges and Opportunities

We must take full advantage of the close working relationship between our weapon system project managers and C³I systems managers to ensure that C³I performance is considered early in the conceptual phase of new weapons developments. To accomplish this we must:

- o Provide overall architectures and planning information to allow for the integration of new force management concepts without totally redoing existing C³I assets.
- o Strengthen C³I management through the use of such joint and defense-wide activities as the new Joint Tactical C³ Agency.
- o Improve our capabilities to degrade enemy weapon effectiveness and C³ systems while ensuring that the enemy is denied the opportunity to easily degrade our force management apparatus.
- o Always be aware that the performance of our C³I systems is satisfactory only when our commanders' critical requirements are fully met.

SPACE

The Soviet Union has a large, dynamic, and expanding space program now launching over 100 space boosters per year. Soviet activities in space indicate that they emphasize the military objectives of providing maximum support to the military forces and the ability to deny use of space to an enemy. Lesser emphasis is attached to purely civilian aspects which account for roughly 15 percent of their total launches. The larger size of the Soviet program and its greater emphasis on military activities compared with that of the U.S. is displayed in Figure VI-1.

The Soviets do not now admit that they have any military space systems. Broad foreign reporting refutes this contention with, for example, the extensive documentation on continued Soviet operational testing of a ground-based orbital homing satellite interceptor since at least 1971. The U.S. maintains nearly the same number of active satellites on orbit, approximately 110 to 120, as does the Soviet Union. However, by virtue of longer satellite orbital lifetimes, the U.S. is able to do so with significantly fewer launches. Despite the four times greater launch rate and total annual payload to orbit, Soviet estimated space program cost is estimated to be roughly twice that of the U.S. The lower Soviet unit cost is primarily due to their use of less sophisticated spacecraft and to their longer production runs which reduce unit costs.

The Soviets have three extensive space assembly and launch complexes which are located at Tyuratam, Plesetsk, and Kapustin Yar. Major new launch and

support facilities are nearing completion at Tyuratam for a family of new space launch vehicles and reusable spacecraft. Operational capabilities for these new facilities and systems will probably be achieved by the late 1980s to early 1990s. The U.S. Space Transportation System (STS or "Space Shuttle") and its launch facilities are comparable developments now largely operational.

The Soviet heavy lift launch vehicle is estimated to have a payload capability to low orbit of up to 330,000 pounds, far exceeding their prior launch capability maximum of 44,000 pounds and in the same class as the discontinued U.S. Saturn. The U.S. STS can place 65,000 pounds of payload into low earth orbit.

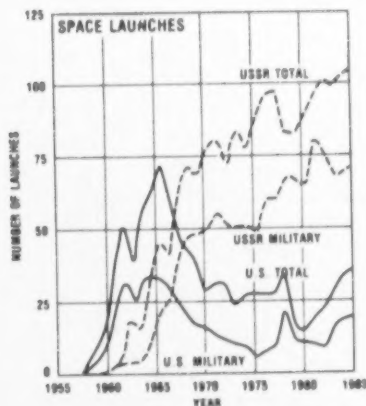


FIGURE VI-1. Annual Number of U.S. and USSR Space Program Launches

The U.S. objectives in space outlined in the President's National Space Policy call for a balanced civilian and national security space program. Defense efforts focus on four major areas:

- o Pursuing a vigorous research and development program to capitalize on space technology as it evolves;
- o Moving to space those support functions best performed there;
- o Ensuring that we can maintain access to space; protecting our resources deployed there; and
- o Developing the capability to defend against threatening enemy space systems.

Because the Shuttle is essentially a peacetime system, we are initiating a program to procure ELVs for an assured access to space and to sustain our invaluable launch vehicle industrial base developed over the last 25 years. One of our highest priorities is preserving the vigor of our space programs designed to implement the national security aspects of the President's National Space Policy. The continuity in this program protects our vital industrial base which is fundamental to maintaining our technological lead, ensuring access to space and space support to our forces when it is necessary, and making it possible to protect our ground forces against adverse employment of space by an enemy. I am confident that this program will continue the augmentation of our military forces that is proving to be an increasingly important aspect of the strategic balance.

SCIENCE AND TECHNOLOGY PROGRAM

Among our assets to deter the Soviet's numerically greater and increasingly sophisticated forces is a large and viable national science and technology (S&T) infrastructure capable of producing new and innovative solutions to defense problems. The Department of Defense in-house laboratories, the universities and industry all play major roles in ensuring that technology appropriate to defense is anticipated and developed in a timely manner and transitioned into useful military applications at the earliest practical date. It is important to take advantage of the leverage afforded by this DoD-private sector cooperation to ensure that we have a strong and viable technology base for future weapons. This is an area of advantage for us that we must maintain.

The S&T Program is managed by the Services and Defense Agencies and covers technical areas of importance to the military mission. The range of projects varies from basic research to large scale demonstrations. It is not practical to describe all S&T efforts in this section; however, several important programs will be highlighted.

Very High Speed Integrated Circuits (VHSIC)

The Very High Speed Integrated Circuits (VHSIC) Program has made excellent progress toward the goals of increasing the U.S. lead in integrated circuit technology deployed in weapon systems and minimizing the time delay before technology deployment. Each of the six VHSIC contractors has produced fully functional devices and has programs to improve their fabrication yields; together they have produced over 2,000 fully functional VHSIC chips. The insertion of VHSIC into an operational system will occur this year, the first of 37 weapons system programs for which the insertion of VHSIC technology has been initiated. Contracts have been awarded for development of the critical second generation (submicrometer) of VHSIC. During this year and the next we will be capitalizing on the first generation technology and using the experience gained to guide aggressive development of the second generation. VHSIC remains our highest priority technology program and we will continue to provide strong management emphasis to achieve the expected increases in military capability that will result.

Computers and Software

A number of activities are underway in computer and software technologies. The Software Technology for Adaptable, Reliable Systems (STARS) program is proceeding with a goal to achieve at least a ten-fold improvement in DoD's ability to develop computer software to meet mission requirements. This joint Service program will be accomplished by the increased use of computer-aided-techniques for software development, the use of reusable software libraries to avoid redevelopment, and computer program construction tools which are now affordable due to a significant reduction in the cost of computer time. Related to STARS is the expanded use of the new DoD standard programming language, Ada, which has shown promising results in its early applications. Also, with the establishment of the Software Engineering Institute in December 1984, we have taken a major step in our effort to accelerate the transition of emerging software technology into use in defense systems.

In addition, substantial progress has been made in the management of our mission critical computer resources. The Defense Computer Resources Board and the Computer Research Council were established to address computer policy and management of mission critical computer systems. These actions will serve to strengthen the DoD computer and software posture in future years.

Supercomputers

The Defense Advanced Research Projects Agency (DARPA) Strategic Computing Program is developing a class of super intelligent computers for application to advanced defense systems by the end of the decade. Emphasis in the program is on machine vision, natural language understanding, speech understanding and the development of expert systems. Small scale, non real-time laboratory feasibility demonstrations of these capabilities have been achieved in the basic research program. The Strategic Computing Program is developing the computational speed necessary for defense applications. An estimated three to

four orders of magnitude increase in speed is needed over conventional machines and will be achieved by the use of advanced microelectronics and multi-processor computer architectures. These capabilities will be applied in various high payoff defense programs including an autonomous land vehicle, an electronic co-pilot called a pilot's associate and a battle management system.

Cruise Missile Technology

Also, DARPA's Advanced Cruise Missile Technology program has achieved major successes in the areas of autonomous terminal homing accuracy (extremely low target errors for cruise missiles), and in advanced propulsion. In the latter area a gas turbine rotor built entirely of advanced carbon-carbon materials has advanced through dynamic spin tests which validated structural integrity. Exotic metallic slurry fuels have also been tested at very high efficiencies. Over the next several years full scale carbon-carbon hot section components will be fabricated and tested in a turbine hot section demonstrator. The successful culmination of these demonstration programs will result in more than a twofold extension of cruise missile range-payload. Other applications of this technology include virtually all manned and unmanned vehicles using gas turbines.

Training Technology

We are placing added emphasis on methods and equipment to train our active and reserve forces to meet the challenge of enhanced readiness while limiting costs. Available technologies are being refined, and new technologies are being developed to insure that people can effectively operate and maintain new systems. Using advances in microcomputers, educational aids, and video reproduction, as well as capitalizing on the inherent interest of electronic "games" as trainers, we are matching individual skills with job demands and developing new skills and technologies where required. We intend to capitalize on the 20%-50% saving in cost and 30% saving in time that our research shows can be realized through the use of computer-aided and computer-managed simulators and other training devices. We will do this through the use of high speed computers, solid state displays, mass storage of information and other advanced training techniques. Our goal is to make learning effective and the training process cost-effective.

Basic Research

Our basic research is the source of new ideas and new science that underpins technological developments vital for sustaining superior technology. Much of this work is performed by universities. Initiatives such as the DoD-University Forum and the University Research Instrumentation Program are increasing collaboration between DoD and university researchers. Essential components linking academic and industrial research to DoD applications are the DoD laboratories.

We are proposing to provide funding for new research initiatives to foster stronger interactions between DoD laboratories and universities and to provide a sounder basis for the development of technological options to solve national security problems.

One important element of the research program enables DoD's in-house laboratory directors to have more latitude in selecting technology areas they regard as particularly timely in advancing our capability. Among our goals is to attract, retain and motivate highly qualified scientists, engineers and technicians throughout DoD and especially in the laboratories in order to enhance the capability of the Department to fulfill its mission.

Other Areas

Progress is also being made in many other areas. We have initiated a DoD/NASA program to develop metal-matrix composite survivable space structures. This long range science and technology program will undertake to demonstrate options that will withstand nuclear, laser, and pellet attack.

The Navy and Air Force Joint Technology Demonstrator Engine program has recently demonstrated significant performance improvements in large experimental fighter engine configurations which will be the foundation for a new Joint Advanced Fighter Engine (JAFE) for the next-generation air superiority fighter. Our goal for FY 1986 is to complete life cycle assessments of those advanced technologies to insure that the JAFE can avoid durability problems and performance compromises that have plagued previous fighter engine developments.

We have achieved considerable capability in denying our adversaries the ability to exploit the electromagnetic spectrum for weapon guidance and C³ operations. With the emergence of wide-band gallium arsenide components, we are placing less emphasis on stand alone techniques by developing integrated systems to perform the functions of target acquisition, surveillance and electronic warfare.

TEST AND EVALUATION (T&E)

Goals

The Director, Defense Test and Evaluation approves test planning and oversees the execution and evaluation of major weapon system testing throughout the acquisition process. Most importantly, he provides critical independent assessments of these systems to the Secretary of Defense and the Defense Systems Acquisition Review Council at major decision milestones. In addition, he oversees the management of the DoD major range and test facilities, joint service tests and evaluations, and the DoD Foreign Weapons Evaluation Program.

Major Achievements

Threat Simulator Developments: To achieve economy, preclude unwarranted duplication and gain emphasis from a coordinated effort, we have developed a tri-Service program within the purview of the Joint Executive Committee on Air Defense Threat Simulators. We now have efforts underway to generate a data base for use in simulating threat air defense systems. An Integrated Program Plan has been developed to link scientific and technical intelligence acquisition, surrogate testing, and simulator developments and to analyze requirements for realistic operational testing. A Threat Simulator Master Plan (TSMP) has also been produced to catalog current inventories and shortfalls for threat simulators. This data base has been automated for more timely data collection and report production.

International Test and Evaluation Initiatives: Under the T&E agreement secured with Canada last year, an Air Launched Cruise Missile (ALCM) captive-carry test was successfully completed in March of 1984. With recently modified test support instrumentation we will be continuing the annual ALCM operational test flights in Canada this winter. The 1985 series of tests will consist of one B-52/ALCM captive-carry test plus two ALCM free flights over western Canada where the terrain closely resembles the Eurasian land mass. Additionally, test plans were approved by both governments and testing completed on the Air Force's LANTIRN system and the Navy's F/A-18 and AV-8B aircraft during the Fall of 1984. The Canadian/U.S. agreement affords the Department of Defense an inexpensive way of testing weapon systems and equipments under realistic battlefield conditions.

We are entering into cooperative agreements with several countries (e.g., Peoples Republic of China, France and the United Kingdom) to assist them in improving and modernizing their testing capabilities. We expect these to be a long term effort as we develop plans to upgrade their test facilities.

Joint Test and Evaluation (JT&E) Program: The JT&E program includes five ongoing tests in FY 1986 to examine the capability of developmental and deployed systems to perform their intended missions in a joint environment: Command, Control and Communications Countermeasures; Electro-Optical Guided Weapons Countermeasures Counter/Countermeasures; Identification Friend, Foe or Neutral; Forward Area Air Defense; and Joint Live Fire tests on foreign and domestic armor. A Joint Test and Evaluation Library has been established and is being expanded to provide the joint test community a

comprehensive up-to-date reference base. The management and organization of joint tests have been formalized and improved.

Aerial Target Initiatives: Development has begun on a supersonic low-altitude aerial target to replicate the high speed, low-altitude dash of anti-ship missiles. Initial Operational Capability (IOC) for this new test resource is FY 1990. In the interim, modified Vandal targets will provide a surrogate of the anti-ship missiles threat. A new low cost subscale, subsonic target, the BQM-PI, is under contract with an FY 1988 IOC. The BQM-PI will supplant older, costlier systems and provide engagement scenarios to stress U.S. counter-air systems under test. A research and development effort will result in a new full scale Army helicopter aerial target, vitally needed to test battlefield air defense systems. IOC for this target is FY 1987.

Test Range Modification Program: The modernization program continues to provide a significant increase in the test and evaluation resources available at our test ranges. These resources will support all phases of Developmental T&E (DT&E) and Operational T&E (OT&E). For example, the Army's High Energy Laser Systems Test Facility (HELSTF) and the Air Force's Radar Target Scattering Advanced Measurement System (RAMS) will reach IOC in 1985 to support vitally needed technology developments. The Navy has produced a comprehensive study of RDT&E underwater range requirements worldwide which will insure that forthcoming submarine and anti-submarine warfare systems will be fully tested and evaluated to insure their effectiveness. These resources and other new facilities under contract for the T&E ranges will allow us to meet the challenges and satisfy the requirements of timely and comprehensive weapon systems test and evaluation.

Challenges and Opportunities

Service Preparation of TEMPs: The quality of Service Test and Evaluation Master Plans (TEMps) has improved, but continued emphasis is required to insure completion of essential tests. TEMps must critically examine all technical and operational testing issues before a major system can be fielded with confidence, and must provide a clear correlation between these issues and program objectives on the one hand and test-verifiable goals and thresholds and risk levels on the other. We have asked the Services to continue the improving trend of timeliness and quality in the TEMps they submit, particularly in quantifying system parameters to be verified by testing. In addition, we have made mandatory the Services' early identification of test resource requirements and shortfalls, and inclusion of plans to correct existing or expected resource shortfalls. As a result of a special project to develop improved guidelines for T&E software, increased emphasis is also being given to plans for testing embedded or mission critical computer software.

Ship Testing: The long construction periods associated with ships make it impractical to wait for test results from the first production article before deciding on production configuration of follow-on ships. Consequently, we must rely heavily on land based and sea based test beds for the information needed to make major platform acquisition decisions. The challenge we face is how to conduct realistic testing using these test beds. We are evaluating alternatives for more effective utilization of land based test beds. Interconnection and interoperation of geographically dispersed simulations and test beds is one of several potential solutions being explored.

Foreign Weapons Evaluation (FWE) Program: The FWE program is structured to evaluate weapon systems, equipment, and technology from friendly foreign nations for use by our forces and development agencies. The program has continued to produce results with the selection of five more foreign systems for U.S. forces use in the past year. Since its inception in FY 1980, the program has resulted in 18 items of equipment being selected by the Services for U.S. inventory with a procurement value of nearly \$1 billion. This figure is based on an annual average investment of less than \$10 million per year. By capitalizing on the research and development efforts of our

allies, we have been able to obtain \$20 of procurement value for every test dollar invested. This compares to a return of \$3.20 in procurement value for every RDT&E dollar invested in domestic programs. This successful program, with its added features of increased interoperability and standardization with our allies, is building visible milestones along the two way street of international cooperation.

INTERNATIONAL ARMAMENTS COOPERATION PROGRAMS

Goals

The basic goal of our international cooperation and technology transfer programs is to develop, field and support--through equitable burden sharing--the most effective and interoperable conventional military equipment for our forces and those of our allies and friends. This requires joint efforts and the exchange of military technologies and goods, when in our national interests to do so, and the denial of militarily critical technologies and goods to our potential adversaries.

We cooperate with our NATO allies in the interchange of technology through cooperative research, development and acquisition of weapon systems. It is our objective that the NATO Alliance attain, through equitable burden-sharing, the necessary military strength in terms of superior weapons, readiness, sustainability, and interoperability to achieve and maintain a credible military deterrent and thus preserve peace.

Specific Objectives

A credible collective non-nuclear forces capability within NATO will require substantial investment by the U.S. and Allied governments. Armaments cooperation is a key incentive to economically achieve these investments. Thus, our objective is to create an environment which fosters maximum use of combined technological and industrial capabilities by working both within the NATO Conference of National Armaments Directors (CNAD) and its main groups, as well as through individual bilateral and multilateral agreements for specific development and production programs, and by placing emphasis on utilizing the broad industrial infrastructure for cooperation which exists in international industry-to-industry relationships.

This year we will insure responsive and sustained support for the NATO initiative proposed by the Secretary of Defense to exploit emerging technologies to improve NATO conventional defense. The emerging technologies initiative focuses Alliance resources on priority programs that the NATO Defense Ministers have identified. These will provide improved conventional capabilities within this decade in forward defense, attack of follow-on forces, counter-air, and C³I Counter C³.

The U.S. shares strategic and security concerns with other allies as well as friendly nations with whom we have no alliance arrangements. We will expand cooperation with these non-NATO allies and friendly nations and will assist them in developing and maintaining mutually beneficial indigenous defense capabilities. We will approve the sale of defense equipment, with appropriate safeguards concerning technology transfer, to those nations whose policies are in consonance with ours and those of our NATO allies.

Major Accomplishments

Our focus within NATO is the expansion of the broad infrastructure for cooperation as more industry-to-industry relationships are developed. The basic Multiple Launch Rocket System (MLRS) is an example of a US system with European involvement in development and production. The four nation development of a terminal guidance warhead for the MLRS program, and the three nation development of a Rolling Airframe Missile (RAM) are examples of cooperative developments involving exchanges of advanced technologies. The AV-8B Harrier is an example of a European system with US industrial team arrangements for co-production.

Significant improvements have been made in NATO's air defense coverage through multinational efforts in concert with the Congress. Agreements have been signed with Germany for acquisition, deployment, and support of the Patriot air defense system and ROLAND point defense of airfields. The

Netherlands and the U.S. have entered into a similar arrangement for the purchase of Patriot. A Patriot agreement with Belgium is now being explored. These will result in enhanced effectiveness and interoperability in NATO's air defense. (See Chapter V, Land Warfare.)

We will continue our armaments cooperation activities with friendly Middle East nations. Cooperation with Israel, through the 1984 Memorandum of Agreement, has provided the Services with essential information learned during the 1982 Israel conflict in Lebanon. This exchange of information, as well as efforts to co-develop new systems, is expected to continue. Significant technology release makes possible the Israeli development of a new tactical aircraft, the LAVI. We also have several co-production programs with Egypt under the auspices of our Defense Production Assistance Agreement with that country. We have amended this agreement to provide for data exchanges, which should further our cooperative efforts.

Our cooperative work with Asian nations is promising. In 1983 the Japanese decided to permit transfer of military technology to the US. The Defense Science Board has completed an assessment of the potential and means for enhancing industry-to-industry armaments cooperation with Japan. The DoD has conducted an assessment of two critical technological areas to determine where increased US-Japan cooperation in these selected areas might be in the mutual interest of the U.S. and Japan. The Defense Policy Advisory Committee on Trade has assessed the perspectives of both trade and defense. These efforts are to ensure our overall program of armaments cooperation is balanced and in our national interest. Concurrently, real progress is evident in our armaments cooperation with the Republic of Korea, where programs in tanks, communications, and missiles are helping to strengthen that country's defense capabilities. The U.S. continues to support defense modernization by the People's Republic of China in a manner to fulfill our strategic interests and which does not threaten our own national security or that of our allies and other friends in the Pacific region. Additional cooperative programs with Australia have been negotiated.

We are increasing our cooperation with countries of Southeast Asia. Agreement on procedures for pursuing a program of defense industrial cooperation was signed with Indonesia in the summer of 1984. We have signed an agreement on defense industrial cooperation with Pakistan. We are trying to identify projects of mutual interest with Indonesia and Singapore.

Cooperation with friendly countries in Latin America continues to improve in accordance with the needs and capabilities of the individual countries. A Memorandum of Understanding on military industrial cooperation, and an Air Force scientist and engineer exchange program, have been concluded with Brazil. We are also exploring with USCINCSO a regional cooperative program for the indigenous production of low technology materiel. In addition, we are arranging for exploratory discussions with Mexico on establishing long-term cooperative programs in military technology.

Challenges and Opportunities

It is imperative that we work with our allies and friendly governments to achieve commitment of increased resources and non-duplicative allocation of resources which will enhance conventional defense capabilities. Each must assume a more equitable share of the overall defense burden. Armaments cooperation programs are key to increased contributions to the common defense--as they provide the additional incentives of jobs and technological futures to that of military need.

U.S. Congressional and support of European parliaments to reverse "protectionist policies" will be an essential element in implementation of collaborative programs and competitive defense acquisitions. The establishment of the cooperative structure called for in the Roth-Glenn-Nunn Amendment has great potential to enhance the NATO nations military and economic capabilities. Commitment by all Services and the greater participation by U.S. industries and those of our friends, allies and friends is necessary to exploit this opportunity. The recommendations of the Defense Science Board's reports on international industry-to-industry armaments cooperation with our allies identifies actions needed.

TECHNOLOGY TRANSFER AND EXPORT CONTROL

Goals

The transfer and control of technology is inseparably related to International Cooperative R&D efforts. DoD is especially concerned with those technologies essential for the development and production of superior quality weapon systems. In fact, NATO's military strength has been, and will continue to be, based upon such technologies. In sheer quantities of military resources the Warsaw Pact has us both outnumbered and outgunned. We must, therefore, balance this numerical threat in large measure by relying upon qualitatively superior weapon systems to maintain our collective military strength.

It is clear that the sharing of our modern weapons technology with our allies is in our own national interest, if properly managed; but the loss by transfer to the Soviets is cause for grave concern. Based on our analysis, we see several important ways in which acquired technology has impacted on Soviet military capability:

- o There is evidence that such technology has directly contributed to Soviet weapons systems (e.g., through reverse engineering or through direct use of products or know-how in weapon development programs). The contribution of Western microelectronics is a clear example of this type of effect.
- o Similarly, we have seen significant improvements in Soviet industrial productivity which have occurred through the use of acquired products and technology (e.g., robotics).
- o Finally, our studies show significant savings in Soviet defense resources and development time which have occurred through the exploitation of Western technology which we believe have been applied to other aspects of Soviet defense. Our estimates of such savings approach tens of billions of dollars in defense budget efforts. This defense savings has very high military leverage, particularly in their efforts for qualitative weapons improvements.

Major Accomplishments

The Militarily Critical Technologies List (MCTL) is a basic building block of our technology transfer control program. The MCTL is a detailed and structured technical statement of development, production and utilization technologies which DoD assesses to be crucial to given military capabilities and of significant value to potential adversaries. We have continued to refine and improve the list to remove outdated elements of technology. For the first time, we have published and released to the general public an unclassified version. Industry has been a significant contributor to the MCTL's evolution, both as members of the Technical Working Groups and in the review of the MCTL by the Multi-Association Policy Advisory Group (MAPAG).

The International Coordinating Committee (COCOM)--comprising representatives from Japan and the NATO countries, except Iceland and Spain, has refined its agreed list of restricted items to control the transfer of products and technology to the Warsaw Pact. DoD has been a major contributor to this effort, preparing well over a hundred technical proposals to be used in the COCOM list review. We have also provided a major portion of the technical support at the negotiating table. Our efforts in this area have been very successful inasmuch as COCOM has accepted our recommendations to provide new coverage in many areas that were previously uncontrolled. Significant among these are several revisions to the International List in the area of computers. These have eliminated many obsolete controls while concentrating control on areas that have a high military value.

The International Technology Transfer Panel has been established within DoD to better determine disposition of proposed transfers of sensitive technology. This group is concerned with military technology, strategic trade and general national security issues relating to technology transfer.

The DoD has long recognized the need to rewrite the Technical Data Regulations (administered by the Department of Commerce) in order to improve

the control of critical technology identified in the MCTL. While the regulations control direct technology transfers to potential adversaries, there is a considerable potential for diversion through third countries. While existing regulations are clearly inadequate to protect our critical technology, we recognize that more stringent controls would impose an additional burden on US exporters. We have continued to work closely with the Department of Commerce to tighten certain technical data transfers to all destinations while reducing controls on products. When implemented, these initiatives will lead to tighter controls in critical technology exports to all destinations, but decrease controls in the export of noncritical technology to many destinations.

Perhaps most important to industry is the time required by government agencies to process export license requests. The DoD program in export control and technology transfer has improved our operating policies and procedures so that export license applications are now being processed more expeditiously, consistently, and systematically. To effectively focus and coordinate our export license review process, the primary functions of OUSDP and OUSDRE involved in munitions and strategic trade licensing have been colocated to facilitate rapid and accurate policy and technical review.

In addition to interacting closely with industry on specific export cases, we are also working to improve industry's understanding of critical technology issues. The Defense Policy Advisory Committee on Trade, the Defense Science Board, the American Defense Preparedness Association, and the DoD University Forum are good examples of the fora we have used to discuss and clarify technology transfer issues.

HEARING PROCEDURE

Senator STEVENS. Thank you very much, Dr. Wade.

For some time now I have wanted to start the process of recognizing members according to the time they came into the room. Since I was late, this is a good time to start that.

I think Mr. Proxmire was first and then Senator McClure, Senator Andrews, and Senator Rudman. Unless there is objection, we will proceed in that manner.

Senator PROXMIRE. Thank you very much, Mr. Chairman. I do appreciate that. You are mighty gracious. I know your meeting was essential.

Dr. Wade, I want to congratulate you on your first statement today. In contrast to other presentations I have heard over the years, that is a very balanced statement. We often hear the Soviets are 10 feet tall and growing. You indicate they do have impressive production figures, but balance that with an assessment of their problems as well.

SOVIET WEAKNESSES

Let me see if I understood your testimony correctly.

First, how significant is your conclusion that the Soviets suffer from a major acquisition problem, notably the lack of competition, reliance on Western technologies, and excessive secrecy?

Dr. WADE. Senator Proxmire, there is a significant shortfall in the Soviet system. The shortfall results in their driving themselves in a direction and a sense of how they manage their technology which, in my opinion, can be taken advantage of as to how we examine our programs.

For example, much of the new technology which I referred to this morning, is based on computers, software, and basic information management. It is a technology in which this country excels because to be successful it calls for wide peer review. As we proceed toward this new acquisition direction, the Soviets will be behind us. The real thrust and responsibility for our leadership is to make sure that our efforts will sustain the lead that I think we have in this country.

Senator PROXMIRE. Do I understand you correctly that the Soviets depend on evolutionary changes in design while the United States often leapfrogs ahead in technology?

Dr. WADE. Yes, sir.

IMPROVEMENT IN SOVIET MISSILE CAPABILITY

Senator PROXMIRE. You note that the Soviet Union even prior to World War II had more tanks, artillery and military aircraft than all the other European nations combined; therefore, we should not be surprised if they have more today, since they are surrounded by hostile states and unreliable allies.

Is that your testimony?

Dr. WADE. Yes, sir. But I would offer an additional observation. The quality of the weapon systems in the hands of the Soviets has been improving, improving in a steady fashion, over the past 10 years.

The best estimate we can provide has been that for example, since 1971, their R&D program has been structured in an output context which is on the order of 100-percent larger than that with which we have been blessed.

Senator PROXMIRE. Has that continued right through the period since 1976, for instance?

Dr. WADE. Yes, sir. In this context it has been evolutionary, because the main priority for their talented people is in defense research and development.

SOVIET DEFENSE SPENDING

Senator PROXMIRE. The testimony we had earlier from the CIA in another committee indicated that the Soviet Union has had a slowdown in the rate of increase in their military spending and a virtual stagnation between 1977 and 1981 with possibly some increase since then, but virtually none in procurement.

Dr. WADE. Yes, sir. But I don't think that applies to R&D. What we have seen here is a normal cyclical process in new weapons program production. Overall spending declined as the out year portion of older production programs was terminated, even though R&D spending was increasing. What we are seeing is an interim period as the Soviet R&D investment of the previous years begins to produce deployed systems to replace older systems.

In the R&D area, I think it has been a rather steady increase over time, when you look back over 10-plus years, you do see important quality improvement, per se. Therefore, we have to be concerned about this since it is the quality in our force structure on which our deterrence really depends.

SOVIET MODIFICATION OF WEAPONS SYSTEM

Senator PROXMIRE. You indicate in terms of new conventional weapon systems and major modification of reaching operational capability each year the Soviet Union introduced only slightly more than the United States and the reason for the slight USSR lead is the emphasis on routine use of evolutionary improvement rather than entirely new designs.

Is that correct?

Dr. WADE. Yes, sir. But the "mods" contain important add-ons.

U.S. IMPROVEMENT OF MODERNIZATION PROGRAMS

Senator PROXMIRE. Your Table II-4, which is the fiscal year 1986 program for defense—I have a copy of it here—indicates major strategic modernization efforts by the Soviet Union and the United States. Sometimes you get the impression the United States has been standing still in our Strategic Modernization Program, but this table suggests to me we have improved our system qualitatively in some 23 major trend areas.

Is that correct?

Dr. WADE. Yes, sir. If you will note here, the U.S. Modernization Program was turned on in the latter part of the 1970's and has been accelerated somewhat during the last 5 years.

When you look over the last 20 years, which includes the nuclear arms control agreements in 1972, and the hope therefrom which lead us to emphasize modernization. We have been in a real catch-up mode since 1979.

U.S. SUPERIORITY IN BASIC TECHNOLOGIES

Senator PROXMIRE. This also indicates that the United States States is superior in the overwhelming majority of basic technologies. Out of the 10, I think we are superior in 15. We are equal to the Soviet Union in five and they are superior in none.

That seems to me to be a very reassuring assessment. Except, of course, you do have indication that in the guidance and navigation materials and altogether about six or seven categories, that it is moving toward equalities even though we are ahead.

Dr. WADE. It is reassuring in the sense that technology is available in the infrastructure of the United States. Our job is to get that technology deployed and in the hands of our forces; Just as important as maintaining the deployed technology is to sustain the modernization of our forces. We must continue to look forward, share our technology with our allies, rather than modernizing once every 20 years and then having to worry about the new technology leaking into the hands of the Soviet Union.

DEPLOYED MILITARY SYSTEMS

Senator PROXMIRE. In the table II-3 you have "Relative U.S./U.S.S.R. Technology Level in Deployed Military Systems." There indeed, the Soviet Union is superior in five respects. We are superior in what appears to be about 20 and equal in most of the rest. We obviously have an advantage in both deployment and in basic technology.

Dr. WADE. Yes, sir. If you will notice the trend lines in the column of U.S. superiority, many of those arrows are moving in the wrong direction. In that context we can control those trends as long as we maintain the validity of our R&D base.

INCREASED FUNDING FOR SDI RESEARCH

Senator PROXMIRE. I would like to get an assessment of the impact of the increase in funds for star wars research.

In his budget the President is requesting a \$2.2 billion increase for star wars from \$1.4 to \$3.7. That is the largest increase in the R&D program for the Department of Defense. Indeed, the increase for star wars is greater than the increase in the RDT&E budget in the Army and Navy combined.

The increase for star wars represents 30 percent of the increase DOD is asking for its entire RDT&E budget.

How is the huge increase in star wars research affecting the funding for other R&D?

Can you give programs that have been canceled, cut back, stretched out to accommodate that increase in star wars research?

Dr. WADE. I can, but I think as a result of the full year we have spent reviewing the programs and resource requests from the Services, we have arrived at an adequate and balanced program for

both our strategic offensive retaliatory forces and our conventional initiatives, considering the priorities that the President and the Secretary have given to SDI.

I certainly will admit that the increase from \$1.4 billion in 1 year is very substantial, but it is also consistent with the priority we are placing on this program.

Senator PROXMIRE. Would you give us the list of any programs that have had to be canceled, cut back, or stretched out?

Dr. WADE. Yes, sir.

[The information follows:]

CANCELLED, CUTBACK, AND STRETCHED PROGRAMS

The increase in RDT&E funding for the Strategic Defense Initiative (SDI) has had no impact on the funding for other research programs unrelated to the SDI effort. On the other hand, a number of RDT&E programs directly related to the SDI program were accelerated, consolidated, or folded into the SDI program itself. Since the SDI will become a major element of a balanced Strategic program, it is our intent to fund the SDI program from within the 12 to 14 percent of the Defense budget allocated for strategic forces.

STAR WARS PERCENTAGE OF RESEARCH BUDGET

Senator PROXMIRE. The Budget Office estimated by 1989 star wars will consume 16 percent of the Defense research budget.

What effect will that research have on total R&D funding in the next 5 years when the star wars budget is projected to increase dramatically?

Dr. WADE. I will have to go back and reflect further for that answer.

Let me briefly say if you examine the details of how we are structuring the SDI program, there will be a major spin-off to other mission areas if we manage ourselves properly, for example, in the context of battle management.

The command, control, communications, and intelligence need is broad in its applications. We want to make certain that the spin-off, in terms of our conventional capability, is there.

Senator PROXMIRE. Will we see important strategic and conventional projects short-changed because of this emphasis on star wars research?

Dr. WADE. Not if I continue emphasizing the approach as above.

SOVIET TECHNOLOGY ADVANCEMENTS

Senator PROXMIRE. In 1972, when the United States signed the ABM Treaty with the Soviet Union it was estimated we were 10 years ahead of the Soviets in ABM technology.

In the last 13 years has that gap opened or closed?

Dr. WADE. It has closed and closed dramatically, in their favor.

Senator PROXMIRE. What is your estimate of the overall gap?

Dr. WADE. Our ABM Program from 1972 to the 1980's averaged something like \$200 million a year. Basically, all that funding is to keep the R&D infrastructure alive. There was no significant major research in the context of revolutionary technology. This has turned around since 1983. It does take some time for the new infrastructure to be put into place, and for us to see results of this

new technology push. It is a technology push program. We cannot schedule invention. It will come in time.

SOVIET ABM X-3

Senator PROXMIRE. As you know, the Soviets are placing their ABM system around Moscow, the ABM X-3.

How does the ABM X-3 technology compare with U.S. ABM site defense technology?

Dr. WADE. I would say about the same.

Senator PROXMIRE. You would argue about the——

Dr. WADE. About the same as we were, in this mission area, 10 years ago.

Senator PROXMIRE. What would be the American counterpart technology of this and what year did we develop this type of technology?

Dr. WADE. In the early to mid-seventies, as far as technology goes.

Senator PROXMIRE. There has been a lot of talk lately about the Soviets being so far ahead of us in the deployed ABM system. I grant they have a deployed system and we don't.

But an even more important question is how do the systems stack up with the technology that the United States is capable of fielding if it chooses to deploy a site defense system?

Senator STEVENS. Unfortunately, Senator, that will have to be your last question.

Dr. WADE. Senator, I would say that there is an important distinction between having technology available and having technology deployed. I think that is the key part to your question.

It takes the Department about 10 years to move a new program into hardware. The Soviets are deploying capability. I think that is the main difference.

Senator PROXMIRE. Thank you, Mr. Chairman.

Senator STEVENS. Senator McClure.

Senator MCCLURE. Thank you very much, Mr. Chairman.

Dr. Wade, thank you for your testimony. I share the accolades that have been given already with respect to the caliber of your presentation of the information given to us. I am very pleased by it, although I think the fact, unless emphasized, might lead to a greater complacency that might be justified.

COMPARISON OF MILITARY SYSTEMS

I look at your tables II-4 and II-5 on pages II-4 and II-5, tables II-2 and II-3. One is with respect to the technology areas in which we lead and the other is in the deployment of military systems.

You, in your last answer, addressed that very despairingly. It is pretty hard to compare an ABM system in qualitative terms when they have one and we have none. You talk about what it might be if we had one, but the fact is we don't have one; is that correct?

Dr. WADE. That is the key point.

Senator MCCLURE. The fact is that they do have one.

Dr. WADE. Yes, sir. They have been racing and we have been standing still.

STRATEGIC DEFENSE INITIATIVE

Senator McCLURE. If you talk about SDI, which my colleague persists in calling star wars, the strategic defense initiative, we don't have any and they have some.

Is that correct?

Dr. WADE. Yes, sir; that is correct in general terms.

Senator McCLURE. So, we can talk about how potentially capable we are, but if we start talking in terms of our present capacity in deployed systems, then it looks a little different, does it not?

Dr. WADE. Yes, sir; in my judgment, as I indicated, our real challenge is to deploy the technology and place it in the hands of our forces.

Senator McCLURE. I look at table II-3, for instance, the first three that are related to U.S.S.R. superiority, all have to do with strategic defense initiatives, ballistic missile defense, antisatellite area, surface-to-air missiles, in which, by your own table, they have deployed systems that are superior to ours.

FRACTIONAL ORBITAL BOMBARDMENT SYSTEM

As a matter of fact, in some instances they have deployed systems and we have nothing. Obviously anything they would have would be superior. I am a little bit concerned about one table that appears on the preceding page, on page II-3, it is table No. II-1, fractional orbital bombardment system.

Is there anything new in that area?

Dr. WADE. No, sir; that is a capability the Soviets have had since the late sixties.

Senator McCLURE. That is when our Government persisted in saying that a weapon placed in orbit is a violation of the treaty, is not a weapon in orbit if it is only there part of a full orbit. It is only in orbit if it goes the full 360 degrees.

Dr. WADE. That is correct.

Senator McCLURE. So, they exploited a weakness on our own policy front to develop a system which we by our own lack of will to find out the existence of as far as violation of the treaty is concerned; is that correct?

Dr. WADE. Yes, sir; historically, as far as these treaties are concerned, we have observed that the Soviets are always working at the margin.

Senator STEVENS. Will you pull the mike up?

MAGNETOHYDRODYNAMIC POWER GENERATION

Senator McCLURE. The next to the last item in that program, magnetohydrodynamic power generation, I am familiar with their program.

I wonder what superiority they have other than the fact they have invested more than we have?

Dr. WADE. You have hit right on the head. They have invested more than we have. They have maintained a stable program over the years; and, as a result, have a better, more capable program than we have.

Senator McCLURE. Is it a significantly better one?

The reason I ask that question is the Committee on Energy which I chair and the Appropriations Subcommittee which I chair will be dealing with that budget. We have come to the conclusion in our own mind it really is not that significant a technology.

Dr. WADE. At this time, one has to ask the question, "where will the technology be applied?" I don't think we know the bottom line. Apparently, since they have allocated sufficient funds in that area, they envision some use for it. We will just have to wait and see.

Senator McCCLURE. Is there any danger in what we see is such a high percentage of R&D being financed by the Defense Department directly or by contract?

Does that lead us to favor those technologies which are developed as a result of our Federal expenditures at the expenses of the others that are outside, that are not financed by our direct expenditures?

Dr. WADE. No, sir; an important point in this regard is that through peer review, the competitive nature of our society tells us to go out to industry for our tasking.

F-20 TIGERSHARK

Senator McCCLURE. How about the F-20?

Dr. WADE. That is a product of our free enterprise system.

Senator McCCLURE. It was developed by the free enterprise system and we are not buying any.

Dr. WADE. Yes, sir; true to this date.

Senator McCCLURE. We buy only those things we finance?

Dr. WADE. I think, in part, that the F-20 program was aimed at third country sales. Our active Air Force does not see to this date, a requirement for it in the context of their worldwide needs. From the company's perspective it was a business decision.

Senator McCCLURE. It was a business decision, but should that not be encouraged rather than discouraged?

Dr. WADE. Absolutely; and it still is.

Senator McCCLURE. It would appear to me we have discouraged them. We have said to Northrop, don't waste your money. If you don't come up with a winner, we will say it is not a winner.

Dr. WADE. Some individuals could make that argument, sir.

INFANTRY COMBAT VEHICLES

Senator McCCLURE. On table II-3 you have indicated that the United States and U.S.S.R. are virtually equal in infantry combat vehicles. That is the most optimistic assessment of the comparison I have seen. Most of the experts I have talked to other than our own Pentagon people will tell us that the combat infantry vehicle the Soviet Union has can fight in an environment where others cannot.

Dr. WADE. Senator, we are talking about the technology that is available to put into a system and in that context—we are superior.

Senator McCCLURE. Table II-3 is supposed to be that which is deployed, not just available.

Dr. WADE. Yes, sir, but you have to talk about the different deployed types as well as the quality needed in the force to compen-

sate for the number advantage they have in their force. The two facts go together.

M1-E1 TANK

The M1-E1 tank, in my opinion, is by far the finest tank in the world, but its deployment is still in the near future.

Senator McCURE. Yet I look at your table and in tank technology you have us equal.

Dr. WADE. That is right. The M1-E1 is in production.

Senator McCURE. You are telling me that the M1 is far superior?

Dr. WADE. Yes, sir, as far as I am concerned, the M1-E1 being fielded today is far superior. And there is no reason why we can't keep that weapon system, over time, superior, with preplanned product improvement.

Senator McCURE. Are you balancing then the technology superiority of the M1 with the numerical superiority?

Dr. WADE. In part we have to make certain that we look at those facts together. As far as the technology is concerned the M1 tank is the best in the world.

Senator McCURE. In your personal opinion, the table ought to show the U.S. superiority?

Dr. WADE. In regard to the table, you have to include the M60A3 and the M1, and consider their capabilities across the board.

Senator McCURE. But you are looking at the average of all the deployed systems, not just one component?

Dr. WADE. That is partly right. Also, I am considering the E1 model which just entered production, but is not yet deployed.

SDI AND SPACELASER BUDGET COMPARISONS

Senator McCURE. How does the SDI budget compare with former President Carter's program for spacelaser R&D in dollars?

Dr. WADE. I would have to go back and doublecheck, Senator, but I would guesstimate that \$3.7 billion is a large increase from where we were in the past few years; and moreover this increase is called for in the context of what we are trying to accomplish. Our goal is to move away from a posture of mutual assured destruction. If you are going to attempt this, to "push technology," this requirement does not come cheap, or free.

[The information follows:]

SID BUDGET COMPARISON

The last budget submitted by President Carter in 1981 contained proposed funding for 1981 to 1985. The 1985 funding called for \$117M for ALPHA (Laser), LODE (Optics) and TALON GOLD (Acquisition, Tracking, and Pointing) plus \$20M in supporting the technology base. In addition, the Air Force was to fund \$50-\$70M for space flight integration and testing for TALON GOLD. Thus the total projected cost of the Carter program was \$187-\$212M. Actual expenditures for 1985 were \$133.5M. SDI is requesting \$296.1M for these space laser projects in 1986.

DANGER OF U.S. CONCESSION OF LEAD TO SOVIET UNION

Senator McCURE. Can we afford to concede to the Soviet Union a 13-year lead in ground-based ABM defenses and decade lead in space-based ABM defenses?

Dr. WADE. Absolutely not.

Senator McCLURE. Is that where we are today?

Dr. WADE. Yes, sir; but we are moving to change that.

TRIDENT II SLBM

Senator McCLURE. Why was the decision made in early 1981 not to accelerate Trident II SLBM's?

If we had made that decision, wouldn't we have been operational this year or early next year rather than later?

Dr. WADE. Senator, the current IOC of Trident II is in the latter part of this decade. The Trident II is a rather high technology system. During the 1981-82 time period, there was a recommendation to accelerate that program.

Certainly it was my judgment, as well as other individuals in the R&D community, that the risk was not worth it. You hear time and again horror stories of people accelerating what you have only on paper. 1989 is about the right timeframe for that technology. It was the correct decision.

Senator McCLURE. Again, Dr. Wade, I want to give you my personal accolade for the caliber of your work and your testimony before this and other committees, at the same time express some concern about the message that gets out when we claim technological superiority which may indeed be real, but is not translated into deployed missile systems and the immense gap that we have between those two facts and the time lapse as well as dollar cost of moving our technology into deployed systems that give us military equivalence.

Dr. WADE. Yes, sir.

Senator McCLURE. Isn't that the essential question?

Dr. WADE. That is right.

STRATEGIC NUCLEAR DETERRENT

I would like to add to that observation, Senator, and note that this country and the free world in many ways are quite fortunate in the context of having the needed technology to provide for our defense. Certainly from the early 1960's through the middle 1970's, plus or minus 5 years, we had to rest our deterrent posture on our strategic nuclear weapons. They were our deterrent.

We did not have the technology during that time period to match on a coequal basis our conventional forces with theirs. The cost was too high to maintain in both troops and equipment. Since 1975, we have begun to regain an adequate balance in our strategic nuclear deterrent. Where we are fortunate is that we have today available technology to move our conventional capability to the front. The technology is here. It is not deployed yet. Our job is to make sure that the current lag in our total deterrent posture is eliminated thru minimizing the dependency we currently have on nuclear weapons.

We have accomplished that goal on the conventional side and it is also consistent in that our Strategic Defense Initiative is also non-nuclear. That is our goal and it relies on technology which is available. The real task is to move forward, and do it; the Congress and the Department of Defense working together.

CHANGES IN U.S. INDUSTRIAL CAPABILITY

Senator McClure. Dr. Wade, my time is up, but I can't help making one observation. It is not a question. Perhaps later we can get back to it.

But I am very much concerned with the changes that are going on with our own industrial capability in this country. We have a technology superiority, but we won World War II not just because the United States and our allies were stronger than the Axis in terms of immediately deployable military power, but we had a production capacity that allowed us together with time to get military superiority as well.

I see us as a result of the trade policy, as a result of changes in the world economy, I see us losing the industrial base to the balance of the world, which leads, first of all, to the R&D and the technology development as well as the ability to deploy it.

A case in point: We are beginning to lose components in the electronics industry in production capacity which will mean that we will also lose the technology edge ultimately to the people who are doing the producing.

We depend upon foreign producers today for absolutely essential elements and some of them are electronics and that is a growing problem, a rapidly growing problem. It is not something that is going to wait 5 years to address. Five years from now we won't have basic production capacity in this country and because of that, we will begin to lose that technology edge you are talking about progressively.

Dr. WADE. Yes, sir; your message is particularly important because, in the context of today's environmental, it might well be a come-as-you-are conflict. We won't have 2 or 3 years to rebuild our industry. So, this it is a particularly important message.

Senator McClure. Thank you.

Senator Stevens. Senator Rudman.

Senator Rudman. Thank you very much, Mr. Chairman.

Dr. Wade, let me join my colleagues in complimenting you on the way you have done your job. You have been acting in this position for some time now. I am particularly impressed by the frankness of your answers and by the obvious thought in preparing your paper this morning.

STATUS OF U.S. INDUSTRIAL MOBILIZATION

Let me get into three areas very briefly.

First, to follow up on Senator McClure's last comment and your answer, one of the problems I see is that we have a force structure that all of the Chiefs will tell us very accurately is comprised to be able to have a fairly rapid mobilization in time of certain kinds of hostilities.

I guess my question to you is that we may well have that mobilization base within the services, within the personnel, but we really don't have that kind of mobilization capability in the industrial America as we had, let us say, in 1941.

Would you like to comment on that?

Dr. WADE. Senator Rudman, your observation is correct. We have been spending a great deal of time in the last 4 years working to

revitalize our industrial base and to improve productivity across the board. But, I think we will never be able to regain the posture we had in the early 1940 time period—when we had time to mobilize for the conflict at hand.

I also would observe that we have new technology that offers the potential for real, up-front in-place, high-leverage combat power. It is in this regard, recognizing the potential shortfall you have mentioned that we have devoted additional attention to how we should apply our emerging and newly emerged technology.

One also has to note that the new, enhanced manufacturing technology that we have today in our industrial base offers the potential of being able to surge quickly in three different modes than we had in the early 1940's. It is an important and difficult problem. Which should be addressed in two ways.

The first is to move our high technology, high potential multi-leverage programs into our forces as fast as we can, and deploy our new technology with planning up front for surge capability.

Senator RUDMAN. Putting one item of necessity aside, that is, the ability to make and gear up for a large amount of ammunition very quickly, defense munitions, which we still could do, isn't it true in terms of replacing combat losses in the kind of a long war, that is one of the scenarios of war planning that we, in fact, do not have now and will not have in the foreseeable future the kind of industrial base that will do either, ship production, and the ships are so complex today, they could not be built as they were in the forties; aircraft production, for the same reason; and basically, just look at tanker production? Look who can cast those hulls.

I think there are two sources. Isn't it true in fact for any extended confrontation we have no way of replacing those combat losses with the industrial base we have?

I am not talking about high-tech base. Is this an accurate observation?

Dr. WADE. Yes and no. You have to make such an assessment on a relative basis. How capable is the other side in this same scenario? The Soviet systems are becoming more and more complex.

Next, as our emphasis has been over the last 4 years, we are not only looking at the platform itself, but we are looking at the kind of weaponry we are using on the platforms. It is here where I think the potential exists for a dramatic change in the sense of placing high-tech weaponry in the hands of our troops at the beginning of the war.

We ought not be ascribing to our new technologies the ability to place a hammer on future conflicts nor should we make an assessment of the other side's ability to do the same. What is important is how good we are at getting the equipment to the troops. It is American ingenuity and creative ability to procure these kinds of systems, which needs to be understood.

You note how the Soviet Union performs their task, it is evolutionary in nature. They have to depend on us for this new technology, which means they will be behind us because they certainly cannot have something before we do, if they copy from us.

In this regard, let us look forward, continue to turn over this equipment, further modernize it, and, thus have a scuder acquisition strategy. Whatever the technology leakage is, one does not have

to worry about it that much as long as modernization of our own forces continues.

SUPERIORITY OF SOVIET CONVENTIONAL WAR MOBILIZATION

Senator RUDMAN. I guess we could debate that. I submit to you in terms of conventional war, they are far better prepared to mobilize and far better prepared to move forces and support forces up through their industrial base today than we are.

Dr. WADE. In this format, yes, sir.

Senator RUDMAN. That is a very important observation unless one wants to think of nuclear.

In conventional forces you have to believe they have more long-range sustainability than we do.

Dr. WADE. That is right. Our R&D efforts today can have an impact tomorrow on what can be done to change that shortfall.

Senator RUDMAN. Let me move to a very interesting point, one that this committee has a great interest in, joint program management.

There is one statement, a short paragraph within your statement, which kind of drew my attention. It says, after discussing joint program management:

An agreement on each of these areas does not come easily. Valid differences exist among Services on mission operational and technical requirements. The challenge is to identify areas where potential for capability improvement and cost savings exist and to direct management efforts accordingly.

I think that is one of the most diplomatically stated statements I have read in this statement at least. It is very well done, but to some extent it does, I think, maybe the word is disguise, I will just stick with understate the real difficulties that you have and DOD has in trying to force more joint programs not even of the esoteric area such as the ones you mention here, such as AS and very high speed integrated circuits, but I am talking about jet engine development, armor development, small weapons development, certain types of defensive systems.

How much success are you having in that area?

Dr. WADE. As my statement indicated, we are continuing to work these problems. As you so wisely observed, it is a very tough area. You have to assemble three services together at the same time. After you succeed in that regard, hopefully, you develop a sense of priority for the R&D portion of the program vis-a-vis the rest of the program. Then you find out that there are differences between the three services.

As you probably know, I have been the one senior individual in the Department pursuing, pushing, and justifying the importance of program jointness. In my estimation over the last 12-plus months we have made significant progress.

One reason why I have assumed this position is that I personally believe this new technology only can be optimized fully in its application to our forces when the three services work together and a learning process is involved.

I have learned that you perhaps should not overly push the staff. During the last 12 months we have made significant progress. I ask

for the support of this committee to help us keep moving in this important regime.

Senator RUDMAN. I agree with your answer. I think you have made progress, but I think there is a great deal to be done and a lot of money to be saved.

DUPLICATE OFFICES AMONG ALL SERVICES

One of the things I would like you to look at is to continue to look at the number of duplicate offices within the three services that tend to develop the same kinds of systems to see if there could not be consolidations among those offices in order to save personnel costs as well as to have a better idea as to what the various technologies can do.

The last question, and I have a couple minutes, I believe.

AQUILA SYSTEM

Could you just tell us as much as you can on the record as to how you are coming along with the whole RPV Program, the Aquila system?

Army says they are generally pleased with it; it is rather heavy and there are other problems with it.

There are interesting systems being developed by our friends in Israel. The Marine Corps and Navy are interested in it. There are three or four other programs in that area. When you add them all up, it is a lot of money.

What are we doing in terms of trying to bring those under any umbrella or is that not possible, to quote your wonderful statement here again about the services, that they have differences about operational and technical requirements which is the word that is used to justify a hydraheaded effort going on, all trying to develop RPV's with 11 different people doing it.

Can you tell us what you are doing in that area?

Dr. WADE. Let me offer here some general observations.

Right now we are in a critical stage of our RPV programs. We have had over the years many starts and stops. AQUILA is a major program, which, in the eyes of many, has been goldplated and should be reevaluated.

My only concern is that we can drive the cost down, but let us not kill it; because if you do, you will kill the momentum that recently has been behind programs of this kind. RPV's have an important role to play.

The Department of Defense has addressed this issue at the top level twice in the last 3 months. These major reviews have resulted in reducing the RPV programs in number, and an assessment to determine whether we can reduce to one or two programs that would be assigned all three services. I think we are very successful as we stand at this point. The bottom line is that we are headed in the right direction. In the next 18 months we will realize the bottom line of full success or marginal results.

GOLDPLATING ON WEAPONS SYSTEMS

Senator RUDMAN. Talking about that whole program, I have received the briefings on all of those programs, you are right about the goldplating. I can understand the desire to have all of the sensors put on and all the other information that is available.

The basic thing that the field commander wants to know is what is on the other side of that hill that I can't see? Now, people are trying to find not what is on the other side of the hill, but what kind of underware the soldiers are wearing on the other side of the hill, you know, what is in each box, rather than finding out generally what is deployed over there.

I look at the relative cost of what this was originally supposed to cost for each additional specification and I have to tell you someone over there ought to get hold of it. I am not saying it is right or wrong, we ought to decide to cut the line here and go ahead with the program and it will cost an x amount of money in 1985 dollars.

Dr. WADE. I agree in general with your comments.

Senator RUDMAN. Thank you, Mr. Chairman.

Senator STEVENS. Thank you very much.

INCREASE IN ADVANCED TECHNOLOGY

Dr. Wade, we have a request here for an increase of \$7.8 billion over last year or over the current fiscal year. The bulk of that increase is in advanced technology, roughly \$2.7 billion and in tactical programs \$2.9 billion.

Last year we were successful in working out about a 12 percent real growth in R&D. That is not possible this year. I think everyone realizes that. It is my judgment that defense figures won't really be settled until we get to the continuing resolution.

Meanwhile we have to struggle with how we might allocate whatever increase we get, if any. A freeze would mean roughly the same amount, a 12 percent real growth in R&D if we kept all other things in the budget roughly equal. That would be a \$3 billion reduction in this area as we calculate it.

Now, you took a \$2.8 billion reduction last year. If you had about the same, roughly \$3 billion reduction, how would that affect your 1986 program?

Dr. WADE. Mr. Chairman, I believe it would be devastating to take that type of cut in research and development. Let me offer several of my own observations in this regard.

One is that the R&D budget basically has averaged about 11 percent of the total DoD budget over the past 10-plus years. It is true that this year we are asking for an increase and the percentage increase 12.5 percent. But I would also note again we are talking about a base that is on the order of \$39 billion.

The \$39 billion for RDT&E is relative to a total defense program of greater than \$300 billion. What is the principle ingredient in the RDT&E increase for which we are asking? There are two major areas.

No 1 involves conventional initiatives; and here I think we all agree as to the importance of grasping those available, dramatic improvements for the conventional element of our deterrent posture. As noted in charts II-3 and II-4, we have the technology

available in this country, and the challenge is implementation. That goal is going to cost money but the payoff is dramatic. It also raises the nuclear threshold. It reinforces the Soviets understanding of what our potential capability is. I believe, at this time that reducing the R&D budget would be the wrong thing to do. It is not the "high roller" in our program.

The second issue is SDI. As we talked earlier, the fiscal year 1986 increase is from \$1.4 billion to \$3.7 billion. Here our thrust is a technology push program.

We cannot schedule inventions that are required to fulfill the goals of the President; but I believe we all agree on the importance of the goal to minimize, and ultimately eliminate both sides reliance on offensive nuclear weapons. This goal will not come cheaply. But some savings here may be in order.

If you can succeed in that regard \$3.7 billion is a small amount of money in the context of what you ultimately gain. I would argue that this seed money is worth that amount of money. Again, some savings cannot be argued against.

GROWTH OF DEFENSE R&D BUDGET

Senator STEVENS. We are going through a period of time, in 1978 real there was a 9-percent real growth; in 1979; a minus 1.7 real growth; in 1980 a minus 1.1 real growth. I am talking about R&D.

In 1981, with the President's support that became 13.1 percent real growth and it has been compounding since then. You added 13.7 real growth in 1982, 8.5 in 1983, 12.6 in 1984. Now, we had a 12-percent real growth in 1985 and now we are looking at a 20-percent real growth on top of that, a continuum of 6 years, the 6 previous years have averaged more than 12-percent real growth year after year on a sustained basis in R&D.

Dr. Wade, my problem is focusing only on dollar signs. What I also believe is that the R&D portion of the DOD budget continues to grow out of pace with the balance of the budget. You are saying that we ought to put this into effect, but that is not R&D to bring it over into the application of developed technology.

Why isn't it time now to solidify what we have developed in these 6 years and take it into the Services and let them use this technology you have developed?

Dr. WADE. Mr. Chairman, what we are talking about at this time, is our newly emerged and emerging technologies that really have just come to fore in the last year or two. We need another few years of R&D investment in order to receive the benefits of this new program.

I agree with you that we cannot continue such a growth profile for the future. But, I would argue at this time that we are really in a sustained mode toward the kind of research necessary for both conventional defense initiative, and our Strategic Defense Initiative that have gone unfunded for the past 15 years. This is the wrong time to be pulling back on our drive for a sustained commitment. We do have to turn this curve over in the next several years; but, in my judgment, this time is inappropriate in that the high tech is available in our country, and we need to exploit it.

The payoff is going to be more than just for the defense establishment, but certainly that is the place where the priority need for these resources has to be defended.

I urge you to note that if we keep this program running properly in the sense of gathering in this technology and placing it in the hands of our forces, our commitments overseas, both in Europe and in the Korean area can be strengthened. And if you follow an acquisition strategy which gives you a series of ever-improving deployed technologies coming forth and being deployed in the forces, including our allies. And if you continue to modernize over the next 10 years, in the main you will not have to worry about technology leaking into the hands of the other side because you are also moving out and staying in front. I think that is the best way to solve this leakage problem. At this time, when we have the "Mo" in R&D, we must not pull back. This time would be inappropriate to reduce R&D.

Senator STEVENS. We will get in SDI in another hearing and I think we ought to do it on a classified basis, but I saw a chart once that showed the past support for the research that is now in the basket called SDI in terms of current dollars and my impression was that there had been substantial support for such research in the past, but in individual areas of the research effort of the Department.

CHART ON PAST SDI ELEMENTS

Can you give us a chart showing past appropriations for all of the elements that are currently in the SDI in terms of 1986 dollars?

Dr. WADE. Yes, sir.

[The information follows:]

PAST APPROPRIATIONS FOR SDI ELEMENTS

The following table shows the amounts appropriated in FY 1984 to the Services and Defense Agencies that have been transferred to SDIO:

Appropriation	Amount appropriated ¹	Amount appropriated in fiscal year 1984 in fiscal year 1986 dollars
RDT&E, Army	517,800	561,605
RDT&E, Navy	13,100	14,208
RDT&E, Air Force	146,000	158,351
RDT&E, Defense Agencies	324,100	351,518
Total	1,001,000	1,085,683

¹ Based on fiscal year 1985 Defense Agency Justification Book

HELICOPTER RESEARCH

Senator STEVENS. Doctor, I want to get into some other things later. I am going to have to yield to my good friend here from Louisiana, but let me ask you about this.

I am impressed with what Senator McClure was talking about. I was under the impression that helicopter research in the private sector is going ahead in this country at a pace that is almost beyond comparison to previous days.

Yet we find that the J VX and LHX programs of the Department are both going ahead. The rotary wing aircraft, the program is really a program that the private sector would support. But the tilt rotor is not being supported by the private sector.

Why don't we concentrate our research funds into the tilt rotor and let the private sector continue the normal rotary wing research that they would do anyway?

Why should we have two competing systems going ahead in the Department, one part of that is competing with the private sector, the other part is totally neglected by the private sector?

Dr. WADE. Mr. Chairman, there are two completely different mission areas being addressed by the LHX and the J VX programs.

The LHX program addresses the mission area needs of the troops in contact with the evening. In this case I am talking about the need for advanced research on those kinds of sub-system technologies that fit the mission of armed aerial scout.

The Tilt Rotor Program is a subsystem technology, or program, aimed at a rather large helicopter. You are absolutely correct when you say commercial industry is not today supporting that technology. However, the two mission areas are indeed significantly different.

One could ask the question as to whether or not these two programs are being scheduled in the right framework. But trying to argue that these two programs are one and the same is a misunderstanding of the facts.

Senator STEVENS. I will pursue that further. My feeling is that there is really nothing going on in the normal helicopter area as far as research in the Department that could not be done in the private sector except armaments, et cetera, and related technology. That really is not the basic research in the helicopter.

Senator Johnston.

Senator JOHNSTON. Thank you, Mr. Chairman.

SLBM MISSILE SYSTEMS

I see in the relative U.S.S.R. technology level that you state we are ahead in SLBM's, but we are losing that lead.

Do the Soviets have anything in the works comparable to the D-5?

Dr. WADE. Yes, sir; over time they will. They have been turning out on a regular basis new generations of SLBM missiles. I won't say how fast in open hearing. But over time, you will see that they will come close indeed to D-5 technology. In some areas they will take a long time, but their programs have been very large indeed. They have been spending a great deal of resources in this mission area, a fantastic amount.

Senator JOHNSTON. Do you expect they will be as good as the D-5?

Dr. WADE. I think it will be a long time before their SLBM's will be as good as our yet to be deployed, D-5.

Senator JOHNSTON. What you are saying is that they are probably spending more money there than were are, but the D-5, when it comes online, will be better than anything they have?

Dr. WADE. Absolutely.

CRUISE MISSILES

Senator JOHNSTON. Dr. Wade, what do we have with which we can defend against ballistic missile air launched, sea launched, now or in the future?

Dr. WADE. Are you talking about strategic missiles?

Senator JOHNSTON. Excuse me, I meant cruise missiles.

Dr. WADE. If you are talking about strategic cruise missiles, we do have a technology base to do the job. The problem here is that the technology can only be usefully applied, as you know, if you guide and deploy thousands and thousands of defensive units because you have a vast area to cover. The lethal footprint of these kinds of defense systems is too small to make them effective, and hence affordable. So the technology exists, but it is unaffordable. The opposite is the case with SDI.

What we have to do then, as we look toward the potential downstream of defense against ballistic missiles, is to rely on this new technology, as a spinoff from the SDI program, in order to provide the leverage in which the cruise missile defense system becomes affordable—and effective.

In the cruise missile area, the question right now is not applicable technology, but whether we can afford it, as our technology base currently exists.

On the other side of the coin do we have a defense against ballistic missile systems? The problem here is to solve all of the technical barriers, which is what SDI is all about.

So, we are looking toward a spinoff which will come.

Senator JOHNSTON. Has anybody conceived a kind of spinoff in which you could handle cruise missiles with SDI?

Dr. WADE. Certainly application in battle management with the emerging types of new sensors with the fantastic speed of our newest computers will be available for defense needs across the board. As indicated earlier, we look forward to applying this technology, not only in the nuclear area, but in the conventional area as well.

INCREASE IN RESEARCH PROGRAMS

Senator JOHNSTON. Dr. Wade, a number of witnesses have testified and other experts have told me personally that any research program cannot be successfully increased by a factor of more than maybe 40 or 50 percent, and that is stretching it.

Would you respond to that in view of the fact that SDI would this year be expanded from \$1.4 billion to \$3.7 billion?

Dr. WADE. Senator, I am not sure where you got your figure of 40 to 50 percent.

Senator JOHNSTON. I think that is Jim Schlesinger who used that and Harold Brown.

Dr. WADE. When you say one specific element, you have to be careful. When you are trying to accelerate a program, you have to

employ a structure that requires the hiring of many people. Without the proper management structure, this task is difficult.

In SDI we are talking about expansion of a broad range of technologies associated with sensors, weapons and, battle management. I don't think that applying the 40- to 50-percent generalization is a fair judgment at this time.

I would note here if you go back to the early 1940's, that the Manhattan project within a few years time, was increased by much more than 40 or 50 percent.

Senator JOHNSTON. That was not really R&D. It was more on the development side.

Dr. WADE. It was R&D, in the early years.

Senator JOHNSTON. It was building something specific.

Dr. WADE. There were problems that had yet to be solved. Certainly with the physics, in the main, we had a handle on the problem; but engineering, we didn't. There was a major resource increase on a relative scale.

In World War II, note how fast we turned on our industrial base. Forty percent was not unreasonable in those days. I think the priority and the type of program can't be generalized. One has to be more specific.

Senator JOHNSTON. At some point, as the chairman said, we ought to look at this on a classified basis. At this time I would like to take the \$3.7 billion requested and find out what specifically we are going to do with that money and what we get if we cut it down to 1.4, to 2, you know, 2.5 and various levels.

Dr. WADE. Yes, sir, I believe that is needed.

JVX DEVELOPMENT PROGRAM

Senator JOHNSTON. With respect to the JVX program which is a program I have been quite interested in, how is that development coming?

Dr. WADE. Absolutely fine.

Senator JOHNSTON. Do you not see for JVX, once it is developed, a tremendous civilian application to that as well?

Dr. WADE. That remains to be seen. Generally, technology of this kind, once it is successfully developed and deployed with the military, is used thereafter in commercial applications. It is an applicable technology in principle.

I would expect the spin-off to be worldwide as far as commercial application goes. It has high potential. That is my judgment at this time. My colleagues tell me the same.

LHX/JVX COMPARISON

Senator JOHNSTON. What can the LHX do that the JVX cannot do?

Dr. WADE. First of all, the LHX is a smaller platform that will be piloted by one individual. We expect to build thousands of LHX platforms for battlefield use. The mission application for the LHX is quite different than JVX. As a result, the LHX unit cost should be quite different. It is a different application.

SDI PROGRAM

Senator JOHNSTON. Let me return to a nonclassified question on SDI.

Dr. Wade, some have described SDI as building a canopy and astrodome over the United States.

Do you see that as that kind of defense alternate?

Dr. WADE. I see the program as a "technology push" program. When people try to define the configuration of the SDI I think that they are speculating, and guessing at best.

We ought to focus on the key areas of technology. We have several technical hurdles that must be overcome at which time we will have a better feeling on what the system might look like.

Senator JOHNSTON. Do you see a real hope of preventing an astrodome?

Dr. WADE. I see hope of achieving some of the goals that have been outlined by this administration. Whether it is an astrodome or some other configuration, I believe it is widely speculative at this time. And "where" is the real uncertainty?

Senator JOHNSTON. What we are talking about is point defense for some kind of command and control or our missiles, aren't we?

Dr. WADE. I believe it has to be a type of layered defense in order to make it affordable—as best our thinking is today.

Senator JOHNSTON. You can have a layered defense for your missiles?

Dr. WADE. Yes, sir.

Senator JOHNSTON. Layered defense does not mean you have to protect the whole United States?

Dr. WADE. No, but I think you talk about point defenses and the vast number of points that we have in the United States that must be protected, it has to be a layered system where we can attain the leverage from being able to control larger areas than in point defense.

CUTBACKS IN MISSILES PROGRAM TO PAY FOR MX AND SDI

Senator JOHNSTON. Dr. Wade, some people are beginning to talk about cutting back and slowing down the ATB Program and the advanced cruise missile program in order to pay for the MX and the SDI.

How would you react to such a cutback and specifically how would you—I know you want all of these programs, but can you prioritize them?

Dr. WADE. Senator, our strategic modernization program, started in 1981, and will be available by the late eighties followed by the ATB in the early nineties. Our strategic forces have a job, and we understand the nature of their job. Basically, it is the strategic forces function to provide a deterrent posture today, in the near future, and also the far future, depending on how long SDI takes to succeed.

Again, SDI is a "technology push" program. We cannot specifically identify on paper an IOC date when SDI will be available. Therefore, we have to maintain an adequate deterrent posture. The ATB, cruise missiles, B-1's, MX, and D-5, programs are part of the adequacy that we require for our deterrent posture.

The question really should be in the context of "what do we need for today, and what do we need for tomorrow?" Both are necessary, SDI and our retaliatory force.

Senator JOHNSTON. I take it you would oppose any cutback in ATB and advanced cruise missiles?

Dr. WADE. Absolutely.

COST OF SOVIET DEFENSE OF ATB

Senator JOHNSTON. I understand that the ATB would require the Russians to spend \$500 billion to try to defend against that program.

Dr. WADE. I am not sure about the exactness of \$500 billion. We have completed some studies in that regard, but I frankly hope that the Soviets continue to spend billions for air defense, because such programs do not pose a threat to the United States or its allies.

If the ATB forces the Soviets to spend 10 times more money than they would without ATB, we can consider that healthy. But I hope the strategic program as a whole, ATB, MX, D-5 and B-1—will drive them to the negotiating table so that they reduce their nuclear arsenals. Thus, we will both benefit by such an approach.

Senator JOHNSTON. Thank you, Doctor.

JVX-LHX PROBLEM

Senator STEVENS. Dr. Wade, let me get back to the JVX-LHX problem. The JVX represents the Tilt Rotor Program that no one in the private sector is proceeding to develop.

However, if it really is proven by the Department of Defense, isn't there the possibility of massive spinoff into the civilian sector in terms of the cost of supporting airports and the whole impact of the future of transportation, intercity transportation?

The other program, the LHX, is conventional. Again, to have two full-scale development programs of this sort, something has to give here in this overall budget. This is just symptomatic of that problem as far as the R&D budget is concerned, in my judgment.

We are looking at a problem in terms of making some real hard choices. Why should we do this? Why should we push ahead both of those lines when one of them is really being pursued by the private sector?

Dr. WADE. Mr. Chairman, as I said before, the mission application is quite different for the two programs.

The JVX is a highly military-oriented, large-sized military system that will presumably pay off downstream in its commercial spinoff.

The LHX, although it is pursuing the conventional rotor technology, is a high technology system that will be used for combat scouting. Artificial intelligence, another new subsystem will be used to control a vehicle of that kind and its targeting on the battlefield.

Your question is relevant with respect to whether or not we can reschedule or rephrase the two programs so that we can save some dollars in the context of the problems which we are both facing. I think perhaps it can and should be viewed in that context.

As to whether one or the other should be canceled, I believed both needs exist. It is proven during the course of our reviews. The question is: "Can we afford both at the same time?" I think that is the thrust of your question.

Senator STEVENS. I am afraid if we just leave it to the Department, the cut will be in the one area where there is not private sector development going on and it will be the J VX that slips because it now is only sought by the Marine Corps, I understand.

Is that correct?

The Air Force has pulled out of that?

Dr. WADE. Yes, sir, it is no longer reflected as a joint program, the Navy and Marine Corps have the first priority. The program is proceeding basically on schedule and it would be a mistake to restructure it because we are spending a good deal of money for development of the program.

The LHX is just being started. Technology is being pursued in the context of what is needed for the new platform, but it is not nearly as far along as the J VX Program.

Senator STEVENS. It is the luxury of proceeding with two of those at the same time which demonstrates the problems of reviewing this budget.

My colleagues in the Budget Committee tell us that we are going to have to freeze this budget, in effect, zero real growth. If that is the case, we have to apply that here. No one is going to give us a road map. I doubt that you will come up and prioritize this.

Are you?

Dr. WADE. Right now, sir, we will argue our case for R&D and work with you from there.

Senator STEVENS. Your predecessor—I liked to work with him—when it came down to it, he said, we are not going to prioritize. We have some difficulty in dealing with these things.

I have to tell you in terms of applying the cut that is represented by the Budget Committee, it is my judgment it would take more than a \$3 billion cut in this portion of the budget to make it come out. Part of it, incidentally, would be in personnel.

You have had a real ongoing increase particularly in civilian employees. Up over 5,000 in 1 year is proposed here for increase in employees for your portion of the Department. That is a real growth in excess of 10 percent.

I doubt that the end strength in terms of uniform personnel or civilian personnel can be granted under the Budget Committee's limitations. Now, that goes across the spectrum of your budget, does it not?

PRIORITIZATION OF MANPOWER

Can you prioritize even in terms of employment where is the highest priority as far as your sector is concerned in terms of new employment?

Dr. WADE. I think that is available, through the exercise of some of our models. The output can be made available to the committee.

Senator STEVENS. I would appreciate getting that.
[The information follows:]

PRIORITIZE MANPOWER

The Department considers its military and civilian manpower to be a resource which is used to accomplish workloads and missions. Manpower is not a program in itself.

Manpower requirements are not established in isolation from the programs they support. The force structure (tanks, divisions, ships, aircraft, etc.), base structure, force deployment, force employment, and training and support activities are all necessary to meet the threat-generated workloads. These workloads are reviewed at all levels using recognized engineering and management analysis procedures and techniques, throughout the planning, programming, and budgeting process. The resulting employment plans represent the necessary people to get the job done. Since all are needed, it is very difficult to prioritize among them. The programs of the Department are also very dynamic, causing shifts in priority over time. Resource adjustments must be made in conjunction with program adjustments and must result in a balanced program. Adjustments should not be made arbitrarily, and the Department should be given maximum flexibility to manage the balance of programs and resources.

PRIORITY ITEMS

Dr. WADE. Let me add a few points on your comment; as we look toward reviewing the budget with your committee and other committees of the Congress, I would like to offer the fact that those areas which offer the high leverage, force multiplier combat capabilities in the conventional arena, are the ones we should move to the top of our priority list because those are the only ones that will provide the opportunity to close the conventional gap.

We all understand the importance of improving our conventional capability. LHX, J VX, JTACM, JSTARS, ATM, VHSIC, sensors; modern munitions—these are where the real payoffs are. It is the future that we address through R&D; and in my personal opinion that is where priority emphasis should be—noting the scale at the resources.

Senator STEVENS. I have another role in terms of this Geneva negotiation as far as being one of the Senator observers to that. It is my judgment from what I have heard that one of the driving forces that has brought the Soviets back to the bargaining table, in fact, has been SDI.

I view the SDI vote as equally important to the MX vote in terms of keeping the pressure on for obtaining a meaningful agreement that will bring about a radical reduction in these demands on both countries for continued expansion of the nuclear and strategic forces.

Dr. WADE. Yes, sir.

BUDGETING OF SDI PROGRAM

Senator STEVENS. Under those circumstances it would be my judgment that SDI would be the last thing to cut. I know other people may not agree with that, but it is going to be a battle in this committee, and on the floor, and in conference.

SDI is the area that I think will have the largest payoff in terms of future reductions in the defense budget.

Dr. WADE. I fully agree with that, sir, in reference to our strategic posture.

Senator STEVENS. It is hard to assess this budget from the point of view of what we are hearing from the Budget Committee.

I would appreciate it if we might have some opportunity as we get down the line to have some of the informal chats with you that Senator Stennis had with your predecessor.

Dr. WADE. Yes, sir, I would look forward to it.

Senator STEVENS. Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

GOVERNMENT-SPONSORED R&D

Mr. Chairman, I would like to insert in the record at this point a chart which appeared in the special analysis of the fiscal year 1986 budget document. This chart provides historical data on level of funding of Government-sponsored R&D.

Now, according to this chart the fiscal year 1986 research and development request for all Government agencies is \$57.6 billion. Of that amount, defense received \$41.7 billion, or more than 70 percent, of the entire Federal research and development budget.

Now, just a decade ago defense was receiving only 50 percent of the R&D budget. In fiscal year 1976, we had a split wherein defense was receiving \$10 billion of R&D money and domestic agencies were receiving \$10.4 billion.

My question to you, Dr. Wade is, What accounts for these trends? Why, in your opinion, is it necessary to grant defense an ever-increasing part of the R&D dollar up from 50 percent in times past to 70 percent now?

Dr. WADE. First of all, Senator Sasser, the external threat is a key we use to determine how much we should devote to R&D in the Department of Defense.

As I indicated earlier, over the past 10-plus years we, with our best analysis, have come to the conclusion that the Soviets have been spending approximately 100 percent more than the Department of Defense in military research and development.

Senator SASSER. How did you arrive at that? Do the figures agree with that?

Dr. WADE. Yes, sir.

Certainly in this area there is a wide degree of uncertainty because a good deal of its takes place inside, in the laboratory. But this is our best judgment.

We also look at what weapon platforms are being deployed. So there is an external requirement we have to face. It is the requirement to counter the threat which really drives the DOD program.

In reference to the other needs of the Government and the country, I am not the person, per se, to make that judgment. However, what I do believe is that as a result of having been provided less than adequate funding during the 1970's, the requirement for \$39.3 billion for fiscal year 1986 is a defensible number; and is a number that we believe is needed to provide the adequacy in our defense posture from today until the end of the century.

Senator SASSER. What is programmed for R&D in 1987 and 1988? Do you have those?

Dr. WADE. I don't have those data with me, sir. I can provide them to you if you would like.

Senator SASSER. I would like very much to get those.

Dr. WADE. Yes, sir; those numbers are planning numbers, but certainly there is consistency in that the normal growth pattern will generally extend from the program currently underway.

[The information follows:]

PROGRAMMED FOR R&D IN 1987 AND 1988

The amount we have presently programmed for R&D is \$42.6 billion in fiscal 1987 and \$49.3 billion in fiscal 1988.

ICBM SILOS SUPERHARDENING R&D PROGRAM

Senator SASSER. Dr. Wade, are you familiar with the ICBM silos superhardening R&D Program in 1986?

Dr. WADE. Yes, sir.

Senator SASSER. How much is requested for that?

Dr. WADE. The amount requested for fiscal year 1986 is \$152 million.

Senator Sasser. In your judgment, can we superharden these silos that we are putting the MX's in to the point that we can substantially reduce their vulnerability? Do you have an opinion on that? Can we substantially reduce their vulnerability?

Dr. WADE. Yes, sir. First of all, the silo superhardening technology program is a research program at this time. The attractive feature of the program output is that it really produced a technical surprise in the context of what the initial results were which we have received from that program.

These numbers are high indeed, and in some ways these values have demonstrated that our earlier theoretical modeling in some of our fracture codes was wrong, we learned from that experience. The program, however, is still underway.

The earliest that this technology would be available for us is in the 1990's. We still have to finish up the research.

Senator SASSER. You say the technology would be available in 1990?

Dr. WADE. According to where we are, late 1980's or early 1990's is the time period that we are addressing.

Senator SASSER. This would be 4 or 5 years after the first MX's are deployed?

Dr. WADE. Yes, sir.

Senator SASSER. Are you saying you would start constructing those by 1990?

Dr. WADE. We need first to finish the current research in the next year or two to see how the program develops.

I also note that there is a relationship between not only significantly hardening of fixed point, but also accuracy of the adversary weapon system and that will substantially put it at risk. This coupling will change—improve—over time.

Therefore, one has to appreciate that superhardening is important, the technology is indeed exciting, but it is not, per se, the savior of MX, by itself, over the longer period of time. It is an important aspect but whether superhardening will call for additional measures like active defense remains to be seen. It is an example of the action-reaction phenomena that needs further study.

I would say now it has been a very successful program in the research phase. It is thus attractive in the context of where it might fit in our overall ICBM force; but we need to complete the research.

DEPLOYMENT OF MX'S IN SILOS

Senator SASSER. It will be 1990 at the earliest before we could deploy these MX's in hard silos?

Dr. WADE. Yes, sir; it could be a little bit before or after, but that is a good number.

Senator SASSER. Do you know when the decision will be made on full-scale development to put them in superhardened silos or is that premature now?

Dr. WADE. I think it is premature.

Senator SASSER. We are still working with the technology to superharden?

Dr. WADE. Yes, sir.

Senator SASSER. I gather from your testimony at this juncture we are not entirely positive as to how effective superhardening will be? It looks promising?

Dr. WADE. It looks very promising.

Senator SASSER. Would it be fair to say, and I don't want to put words in your mouth at all, that it looks promising at this juncture, but we don't have any total assurances?

Dr. WADE. I would be more positive than that. The results of our research are that it is very promising, and everything looks attractive. The research program is now going as we expected and it should yield a positive result rather than just a concept that still has to be proven.

Senator SASSER. Thank you.

Mr. Chairman, I have some additional questions I will submit for the record.

MIDGETMAN MISSILE

I am particularly interested in the Midgetman and in the super computers that you requested additional funding for.

I have some specific questions concerning the advanced tactical fighter.

We are just talking here, being a little rude and I apologize, but my staff was talking in terms of timing of this bill. Unless there is some breakthrough and we get an authorization bill, it is going to be a long summer to try to work this one out.

I would urge you to run some models on the basis of what you really would like to see if there is a freeze. I think my antennas tell me that there is more support for a freeze here now than ever before and it failed passage by only six votes last time.

I would say that unless we can have solution to the defense problems through the authorization process, that we are probably facing just a mandated freeze in the budget process.

That means that we then have to live within that limitation or we cannot get the bill passed on the Floor under the budget. I think we will need some guidance as to where to allocate that cut which would be a substantial amount.

Since you have a base of having had an average of 12 percent increase in the past, you come in higher than the rest of the Department as far as that freeze. Still it will be a difficult thing to assess.

I appreciate your courtesy and I join the others in commending you for your statement. I did look at that statement. It is a very significant statement and very concise and well written. You and your people have done an excellent job in presenting this this year.

Thank you very much.

Dr. WADE. I appreciate your comments.

SUBMITTED QUESTIONS

Senator STEVENS. Committee members have a number of submitted questions which we will ask you to answer for the record.

[The following questions were not asked at the hearing, but were submitted to the department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

RDT&E REAL GROWTH

Question: Dr. Wade, the FY 1986 budget request for R&D increases by \$8.1 billion over the FY 1985 appropriation, for real growth of more than 20 percent. Over the past five years, Congress has given the Department of Defense large R&D appropriations averaging more than 10 percent real growth. This has nearly doubled the R&D budget in five years.

Why do we need to continue to increase R&D spending at such high growth rates?

Answer: Our R&D request is based on programmatic considerations, related to the projected threat. Most of the growth is for tactical programs which, after careful review, have been found necessary to continue the U.S. technological superiority essential to maintain a peaceful balance with a numerically superior threat. As our weapons become more complex in action and reaction, yet more reliable and simpler to operate, the cost of development increases substantially. We expect to recoup the additional investment costs in the future through continued reduced manning requirements and enhanced reliability/maintainability. However, we must now continue with increasing development funding which will allow us to meet our commitments in maintaining the peace.

Question: How do the outyears look? Does R&D spending level off, or does sustained real growth continue?

Answer: Our current estimates show continued requirement for real growth in R&D funding in the outyears.

Question: What are the three or four budget activities in which most of the growth is occurring?

Answer: Advanced Technology Development grows by 89 percent over FY 1985 (22 percent excluding SDI). Growth in Tactical Programs is 25 percent; Intelligence and Communications is 22 percent above the FY 1985 level. Reasons for these increases are provided in answers to other questions.

Question: Even excluding the Strategic Defense initiative, which is budgeted for a \$2.3 billion increase, the remainder of the R&D budget shows a real growth of 13 percent.

It seems clear in the current climate that defense budgets will have to come down. The budget committees for instance, want to freeze defense growth and are proposing only 3 percent real growth for the outyears.

Isn't R&D the logical place to reduce spending in FY 1986, due to its outyear commitments to full-scale development and production programs?

Answer: The fact that the Department does have a number of major programs entering full-scale development and/or production does not indicate that R&D is the logical place to reduce spending in FY 1986. On the contrary, in order to provide future options for addressing existing mission needs as well as evaluating alternative approaches for meeting national security requirements, we need to have a strong and viable Research and Development base.

Reductions to our current R&D programs could seriously undermine our future capability to deter aggression.

Question: Is it the position of the Department that the R&D account should be exempt from any real growth freeze? Why? Even if that forces even deeper reductions -- and perhaps negative real growth -- in other accounts, such as O&M, procurement, and personnel?

Answer: It is the position of the Department that the R&D account as well as the other accounts should not be held to a real growth freeze. A real growth freeze would have a very serious impact on our efforts to increase the capability of our fighting forces to counter the growing technological and current quantitative advantage that the Soviets hold over our forces.

Question: Could any real growth freeze on R&D be accomplished without program cancellations and major stretchouts?

Answer: No. - As previously discussed, a real growth freeze would force the cancellation or stretchout of programs and delay the deployment of improved weapon systems far beyond the time they will be needed.

Question: You took a \$2.8 billion reduction to RDT&E last year. How did that affect your FY 1985 program?

Answer: We recognize how difficult it is to make choices between competing programs, each of which places legitimate demands upon our limited resources. However, sometimes this results in decisions to cancel or stretch out programs that, under better budgetary circumstances, should be allowed to continue undisturbed.

The \$2.8 billion reduction in FY 1985 required the rephasing or restructuring of numerous programs to accommodate the lower levels of funding provided, delayed necessary equipment improvement and upgrades, and, in some instances, resulted in higher program costs.

IMPACT OF A NO REAL GROWTH FREEZE ON R&D

Question: How would a no real growth policy in 1986 -- resulting in a cut of more than \$6.5 billion -- impact your R&D program?

Answer: A no real growth freeze would have serious effects on the Strategic Defense Initiative (SDI) research effort, the technology base, and conventional warfare programs. Examples of reductions that would be required are as follows:

Technology Base - (-\$1.0 billion) - No real growth would compound the damage done by Congress in the last three years in which they provided no real growth. Since the Soviets are starting to field technologically advanced systems in all areas of warfare, it is dangerously short-sighted to think that further cuts in the Technology Base will not result in the fielding of inferior U.S. weapons in the future.

Strategic Warfare - (-\$1.1 billion) - Because it is essential that we finish up the development testing of the PEACEKEEPER and B-1B programs, and keep the Small ICBM, advance technology bomber and TRIDENT II missile on their current schedules, a no real growth freeze would force the DoD to reduce the SDI research work. Such a reduction would clearly prolong the

time that the U.S. would have to rely on newer, more accurate offensive strategic weapons and thus fail to capitalize on the opportunity to shift emphasis toward reduction of nuclear weapon stockpiles and elimination of reliance on retaliation by mass destruction.

Conventional Warfare - (-\$3.1 billion) - Conventional Warfare has not been adequately funded since the end of the Vietnam War due to constrained budget levels and the priority placed on improving the three legs of the strategic triad. A no real growth freeze would perpetuate this situation and delay by several years the deployment of "force multiplier" programs such as JSTARS/JTACMS, JVV, C-17, SSN-21, LHX, smart munitions, improved versions of the F-14, A-6, F-15, and F-16 aircraft, integrated command and control systems, and several classified programs.

Intelligence and Communications - (-\$1.1 billion) - A no real growth freeze would require large reductions in classified National Intelligence programs and defensewide communications programs and thus stretch out our efforts to improve our intelligence capabilities and improve our command and control and communications network to effectively manage NATO forces.

Test Facilities and Support Programs - (-\$.2 billion) - Reductions would be required in our test and evaluation programs which would increase the risk in fielding new weapons. In addition, reductions would have to be made to our space support and simulator training programs.

U.S.-SOVIET REAL GROWTH IN R&D

Question: There has been some dispute within the intelligence community about the real growth in Soviet defense spending. Your statement indicates that Soviet military R&D is a high priority, with investment growing at a rate of about 7 percent per year.

Will U.S. R&D spending have to remain at a relatively high level for the foreseeable future?

Answer: In order to maintain the slim U.S. technological advantage, significant defense resources (12-15 percent) will continue to be dedicated to R&D. In view of the ever increasing complexity of the Soviet threat, the proposed levels of R&D funding are not considered to be high relative to the other areas of the defense budget.

Question: Is it essential that we have a higher R&D growth rate than the Soviets?

Answer: The growth rate in Soviet R&D versus the U.S. R&D growth rate is not, by itself, a valid comparison. What we must try to measure (and be able to counter) is the growing number of increasingly sophisticated Soviet systems that are being fielded. Current U.S. R&D efforts are aimed at countering both the existing and the anticipated Soviet threat.

Question: Can't we afford to level off that spending since we have substantially expanded the R&D funding base over the past five years?

Answer: I believe that in the next five years you will see a gradual leveling off of our R&D budget as it relates to the total defense budget.

TACTICAL PROGRAM GROWTH

Question: Aside from SDI, most of the dollar growth in R&D is in tactical programs (+\$2.9 billion). Strategic programs get only \$200 million.

Why is there this decided emphasis on growth in tactical R&D programs?

Answer: The initial concern of this Administration, when considering R&D funding requirements, was to ensure the restoration of a viable strategic offensive capability. This resulted in initial R&D requests which provided additional emphasis on the B-1B, TRIDENT II and PEACEKEEPER, and other strategic programs. We now believe these programs are adequately funded and we need to focus additional funding on our strategic defense and tactical programs.

Question: What tactical R&D programs are responsible for this large budget growth?

Answer: Some of the major tactical programs which require increased funding in FY 1986 are the LHX, JSTARS/JTACMS, JVV, F-14D, A-6E, SSN-21, Navy Command and Control, ATF, C-17, and F-15E.

Question: Won't we face sharp strategic program growth beginning in FY 1987 due to the Small ICBM, ATB, TRIDENT II, and other programs?

Answer: The strategic programs increase from \$8.6 billion in FY 1986 to \$8.7 billion in FY 1987, an approximate 2 percent increase. Although we do anticipate program growth for the Small ICBM and ATB in FY 1987, the increases are offset by decreases in other strategic programs such as TRIDENT II, PEACEKEEPER, and the Advanced Cruise Missile.

CLASSIFIED PROGRAMS

Question: What have you done to control the growth in the number of classified programs?

Answer: The number of classified programs is reviewed continually by the Services and OSD to determine whether or not each program should continue to fall under the rubric of classified programs. However, those programs required to be classified are on the basis that the advanced technology and/or unique warfighting capability represented by the program requires extraordinary security protection and that normal management and safeguarding procedures are not sufficient to provide requisite program security.

JOINT SERVICE PROGRAMS

QUESTION: How would you characterize the current DoD management of joint service R&D programs?

ANSWER: Improved but more must be done. DoD is committed to building a stronger and more effective joint programs management effort. The FY-85 USDR&E Posture Statement highlights several management initiatives to improve

efficiencies through enhanced joint Service programs. Examples include the formally chartered JCS board called the Joint Requirements and Management Board; the Broad-Area Surveillance Executive Committee (for Naval Warfare); the Interdiction Executive Committee; the Command, Control, and Communications Executive Committee; the DoD-wide Munitions Council; and the Strategic Defense Executive Committee. In selected technology base areas where the potential is very evident, special management and funding procedures are being pursued for joint Service research. These include the Very High Speed Integrated Circuit, the Ada high order computer language program, the computer software initiatives and microwave/millimeter wave monolithic technology efforts. Also, increased emphasis is being placed on joint Service testing.

QUESTION: Who is responsible for their oversight?

ANSWER: The USDRE is accountable for specific program unification, standardization, and needed cross-program review for R&D programs. Other OSD staff principals are charged with related responsibilities focussed on cross-Service coordination and oversight.

PUBLIC RELATIONS COST

QUESTION: How much of that is charged on R&D and on procurement contracts?

ANSWER: Contractors have requested that all \$140 million be allowed as charges to DoD contracts. Based on our experience in negotiating these charges, approximately \$40 million of these costs would have been allowed.

QUESTION: What would be the impact of eliminating government reimbursement of contractor charges for public relations?

ANSWER: Our proposed new regulation on public relations cost will eliminate over 95% of these types of public relations expenses.

Research & Engineering Reorganization

Question: On January 29 the Secretary announced the establishment of a new Assistant Secretary for Acquisition and Logistics along with a realignment in the C³I area. I understand that the new office hasn't been established yet. What is going on? When is the new office going to be established?

Answer: On February 12, 1985, the Secretary of Defense officially notified the appropriate Committees of the Senate and House of Representatives of his intention to transfer DoD acquisition and logistics functions to a new Assistant Secretary of Defense position to be designated Assistant Secretary of Defense for Acquisition and Logistics. Implementation of this proposal was to have been effected not less than 30 days (during

which the Congress is in continuous session) from the date of receipt of the Secretary's communication to Congress.

Subsequently, in a letter dated March 14, 1985, the Chairman of the Senate Armed Services Committee notified the Department, that he would be unable to consult fully with appropriate Committee members prior to the expiration of the 30 day period. He requested a delay in signing the implementation order until consultations had been completed. The DoD notified the Chairman that the order would not be implemented until the Chairman had more time to consult with the Committee.

At this juncture, planning for the consolidation of acquisition and logistics functions is continuing in anticipation of early completion of SASC consultations.

QUESTION: Previously, nearly all acquisition and C3I management functions were the responsibility of the USDR&E. How does this reorganization change DoD program management within the Department of Defense.

ANSWER: This reorganization establishes a single executive, at the Assistant Secretary of Defense level, who can devote full time to overseeing the acquisition process, production, contracting, procurement, maintenance, supply, installations management, and related matters. Integrating responsibility for the acquisition management process with oversight of functions, and facilities should be a major step in providing solutions to the problems which have troubled the Department of Defense in recent years.

Under the realignment, the USDR&E will retain his current responsibility to oversee the research and development activities of the DoD.

With respect to C3I, the ASD(C3I) organization was mandated by the Congress. It will involve the consolidation of functions from the USD(Policy) and USD(Research and Engineering). This action is moving toward early implementation.

Question: Doesn't it create more bureaucracy?

Answer: We are not creating additional bureaucracy. The Assistant Secretary for Acquisition and Logistics (ASD(A&L)) is being made up of organizational elements and personnel which already exist within the Office of the Secretary of Defense. The new position is being established from one of the undesignated Assistant Secretary authorizations assigned to the DoD under Section 136(a) of Title 10, United States Code. Therefore, there will be no net increase in the size of the Office of the Secretary due to the establishment of the Assistant Secretary of Defense for Acquisition and Logistics.

Question: Who speaks today for OSD on acquisition questions?

Answer: Until such time as the Assistant Secretary of Defense (Acquisition and Logistics) is established, the Under Secretary of Defense for Research and Engineering will speak for OSD on acquisition questions.

Question: Explain why, when the Secretary announced that the realignment would be completed in 60 days, it has not yet been accomplished.

Answer: Realignment of the Office of the Secretary of Defense C³I activities is proceeding toward early completion of all required implementation actions.

Establishment of the Assistant Secretary of Defense for Acquisition and Logistics has been delayed at the request of the Chairman of the Senate Armed Services Committee (SASC) to provide additional time for the Chairman to consult with appropriate Committee members. Planning for establishment of the new position is continuing in anticipation of early completion of SASC deliberations.

USDR&E Position

QUESTION: It has now been over four months since Dr. DeLauer left as USDR&E and went back home to California.

What are the prospects for getting top-flight managers with industry experience to take the USDR&E slot, when it appears to have been so weakened?

ANSWER: The realignment of the Under Secretary of Defense for Research and Engineering (USDRE) position recognizes the need to better focus and emphasize research, development and acquisition tasks. The transfer of some of the USDRE duties to the newly created ASD(Acquisition and Logistics) helps to accomplish this objective. It frees the USDRE to focus on the Department's total research and development program in a manner which can shape the structure and effectiveness of our war fighting capabilities. It will clearly take some effort on the Department's part to articulate what the Secretary of Defense is trying to accomplish. Once this has been done, industry manager interest in the USDRE position should be rekindled. The USDRE position most likely will not attract the same type of industry manager. However the Department fully expects to fill the USDRE position with a very capable person with skills and experience matched to the job.

UNIVERSITY RESEARCH

Dr. Wade, each of the military services and DARPA has a new line item called University Research Initiative, Funded at about \$6 million each (total, \$25 million).

This program is designed to revitalize the university scientific base in a number of technology areas and increase interaction between universities and DoD labs.

QUESTION: Why is it so important to get this program started in FY 1986?

ANSWER: DoD has proposed a University Research Initiative budgeted at \$25 million in FY 1986, and \$50 million in FY 1987, to strengthen the university research infrastructure and to promote stronger interactions between DoD laboratories and university researchers. The DoD is dependent on universities as a source of new ideas, scientists and engineers, and the conduct of basic

research. This initiative will help reverse a declining trend in the number of U.S. recipients of advanced degrees; it will help arrest the further deterioration of research instrumentation at universities; and it will emphasize selected research opportunities in emerging technologies. These actions are needed now to ensure our long term capability to avoid technological surprise and strengthen our national security.

QUESTION: Universities already receive \$1.1 billion from DoD in R&D funding. Why is this specific program needed at this time?

ANSWER: The initiative is concerned with basic research, in particular to increase the number of highly trained scientists and engineers and to provide funding for selected high-payoff basic research projects. Of the \$1.1 billion only about \$420 million is for university basic research (budget category 6.1). The remainder is derived from other budget categories (6.2 to 6.5). The actions are needed now to improve our long-term national security posture.

DECLINING TECHNOLOGY BASE

Last week we heard testimony from the Defense R&D Committee of the Institute of Electrical and Electronic Engineers. The IEEE expressed concern that the Technology Base program receives a smaller portion of the DoD Science and Technology programs in FY 1986.

QUESTION: Isn't that in large part due to the major increases in the Strategic Defense Initiative?

ANSWER: Yes. The DoD Technology Base request is considered adequate and appropriate.

RESEARCH AND EXPLORATORY DEVELOPMENT PROGRAMS

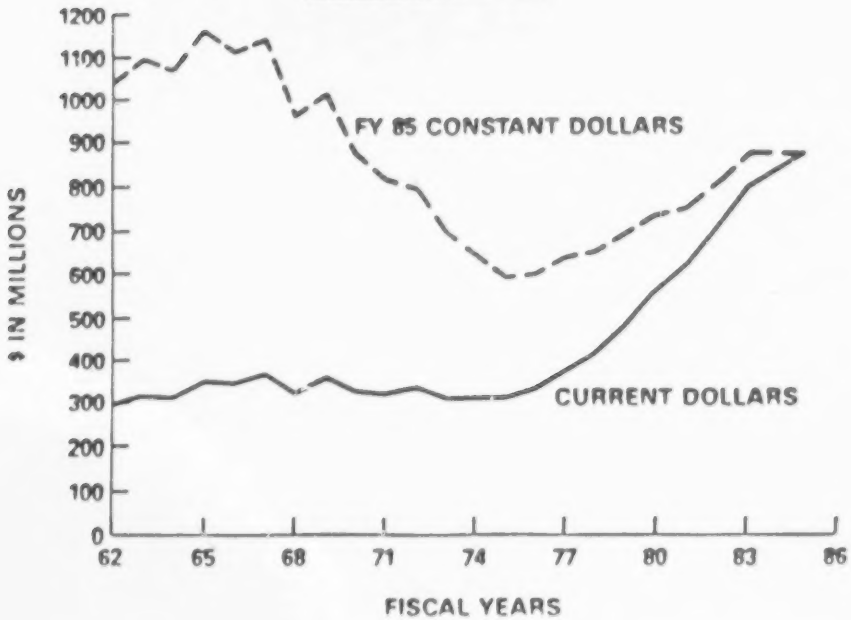
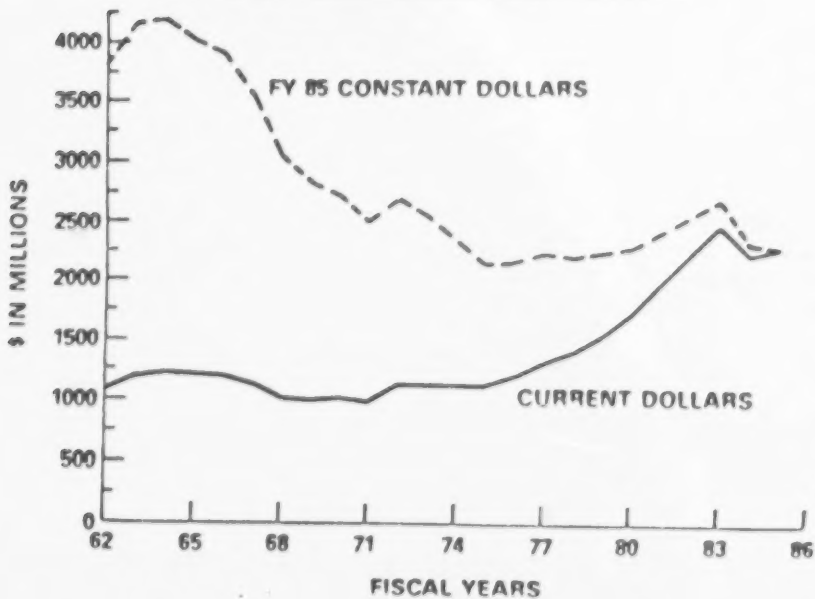
Question: Secretary Weinberger issued a memorandum on August 9, 1984 calling for 8 percent real growth for both basic research and exploratory development programs in FY 1986.

A major reduction to the defense budget could endanger this real growth request, which increases by some \$400 million.

Just how high of a priority is maintaining this 8 percent real growth in your basic research and exploratory development programs?

Answer: A very high priority. We enjoy technological superiority over the Soviets today because of the accomplishments of programs funded in these areas over the past few decades. If we are to maintain technological superiority in the future, we must continue to fund programs in research that are often high-risk with little or no short term payoffs.

The two attached charts are taken from a report on The Technology Base and Support of University Research which we prepared on March 1, 1985 for the Senate Committee on Armed Services. In their report on the FY 1985 Authorization request the SASC expressed concern over the lack of growth in the Defense technology base over "the last two years." The charts show that the problem extends well beyond two years. In constant dollars, technology base funding has steadily declined for nearly two

DOD SCIENCE AND TECHNOLOGY FUNDING TRENDS**CURRENT AND CONSTANT DOLLARS
RESEARCH (6.1)****CURRENT AND CONSTANT DOLLARS
EXPLORATORY DEVELOPMENT (6.2)**

decades. This steady decline in funding has contributed in part to the poor quality of research instrumentation available to students at our colleges and universities. As explained in the report prepared for the SASC, our FY 1986 budget addresses this problem and others.

Secretary Weinberger's memorandum recognizes the importance of the technology base program and sets out to reverse the decline in our technology base. We face critical shortages in scientists and engineers and a decay in our technical capabilities unless we take action. While we believe 8 percent real growth to be a minimum acceptable level, we should point out that a DoD budget with little or no real growth will probably require tradeoffs to ensure that current operating requirements are met.

HEAVY LIFT RESEARCH VEHICLE

QUESTION: Just what is the Army requirement for finishing development and beginning flight testing of the Heavy Lift Research Vehicle (HLRV)?

ANSWER: The Army is the DoD executive agent for helicopter development and is therefore responsible for ensuring technology is available for the development of rotorcraft when needed. In this light, the Army has joined with NASA and DARPA in a joint effort to provide a national asset for large rotorcraft research. The HLRV will allow the U. S. to establish the needed technology data base which will reduce the risk of future large rotorcraft development.

QUESTION: The Army states that it does not intend to produce this helicopter, and that it is merely a research asset. But the Army program briefing for the HLRV shows an advanced cargo rotorcraft program beginning in 1989. What is the Army's real intention on this program?

ANSWER: The intent of the HLRV program is to complete the construction of the XCH-62 helicopter and the development necessary for flight demonstration and for subsequent use of this rotorcraft solely as a research vehicle. This research vehicle will be operated by the Army and the NASA for resolution of technological and operational issues related to lifting external loads up to 35 tons. The HLRV program is an Army, NASA, DARPA effort which will result in a national research asset, enabling the U. S. to establish a needed technology data base in order to reduce the risk of future large helicopter development, at minimum cost.

The advanced cargo rotorcraft (ACR) program is the Army's future cargo rotorcraft which is presently programmed to enter full scale development in 1995. It is not a follow on of the HLRV program, however, the research data gained from the HLRV program certainly could be instrumental in reducing the risk of the ACR development.

QUESTION: Does the Army have a requirement to lift very heavy loads of up to 35 tons with a heavy lift helicopter?

ANSWER: Yes. The Army still has a valid requirement to lift very heavy loads up to 35 tons or greater by an aerial platform.

JVX AND LHX PROGRAMS

QUESTION: Dr. Wade, the Department proposes to double the R&D funding for the LHX program and more than triple the funding of the JVX tilt-rotor program. Can we really afford to develop both of these rotary-wing aircraft?

ANSWER: LHX and JVX are to meet separate and distinct requirements. To restrict both to a single technological solution is not effective. JVX is to meet requirements for long haul, assault, logistics, etc. type operations demanding greater payload and range capabilities whereas LHX is to perform attack, scout, and utility functions necessitating agility and reduced size.

QUESTION: The JVX development program and IOC are being driven solely by the Marine Corps requirement to replace its amphibious assault helicopters. Both the Army and the Air Force are no longer participating in development and have sharply decreased the size of their projected buy. With the out-year budget crunch, they may well drop out of the program.

Can we really afford to develop JVX (V-22A) for what is primarily a Marine Corps mission? Could we afford to stretch the program one or two years?

ANSWER: The V-22A (JVX) is being developed to meet the current and projected needs of all four Services for a medium lift transport capable of operating in the threat environment of the 1990s and beyond. The Marine Corps requirement is most critical in terms of schedule due to the rapidly declining medium helicopter assault force levels in the early 1990s. If deliveries of the V-22A do not commence in 1991, the Marine Corps lift capability will not support even a single MAF assault. A stretch-out in the V-22A program will not only be operationally unacceptable to the Marine Corps but will delay establishing creditable Navy Combat SAR and long range Air Force SOF capabilities, two other vital defense missions that cannot be satisfied by existing assets.

QUESTION: The Army is pursuing a vigorous and unusually fast-paced development schedule for LHX. The program is only in a concept definition phase now, but it's set to complete preliminary design by August 1986 and go to full scale engineering only 9 months after that. Meanwhile, we understand the Army is budgeting \$24 million to modify basic research contracts under the advanced rotor technology line. Why should we push so hard on such a risky schedule when we don't yet know exactly where we're going?

ANSWER: The Army's schedule for LHX is planned to minimize the risk while also pressing for the earliest possible introduction of LHX. The program is in both concept definition and demonstration/validation within the Advanced Rotorcraft Technology Integration (ARTI) program. All 6.3 development for LHX is within the ARTI program to include preliminary design, wind tunnel, single pilot validation, mission equipment design, and very high-speed integrated circuit (VHSIC) design. Industry designs were completed in December 1984. The next design phase will be wind tunnel validation beginning this Spring. The 6.3 effort is structured such that three years of concept definition, demonstration, and

validation work will have been performed to reduce the risk before entering full scale development in 1987. The Army's definition for LHX is detailed and the requirement documentation for this stage of the program has been produced. A Defense System Acquisition Review Council (DSARC) review is scheduled for this year with a DSARC I/II scheduled for 1986. The Army is requesting \$75.5 million to complete the ARTI program.

LHX (LIGHT HELICOPTER FAMILY)

QUESTION: The Army intends to finance two contracting teams through full scale development. Normally, development competition ends before taking a program to full scale engineering development. Why should we agree to keep two airframe contractors in LHX through full scale development?

ANSWER: The reason to keep two airframe contractors in LHX through Full Scale Development is competition. Competition through Full Scale Development will enhance product quality, reduce program risk, spark technological innovation, assure competition at the production decision milestone, and, most importantly, lower the price to the government. Given the magnitude of LHX procurement - nearly 5000 helicopters - it is the Army's position that up-front investment in development competition is cost effective. The Army intends to maintain competition throughout the LHX program and therein capture lower total cost to the Government while achieving a better product at lower risk.

A-6F UPGRADE

QUESTION: The Navy intends to continue development of the A6-F in FY 1986, and has budgeted \$238 million for the upgrade program. This upgrade includes digital avionics, a high resolution radar and a new engine, the F404. Yet the Navy is experiencing major problems with the A-6 wings, having grounded some 64 A-6 aircraft. A major re-wing program, which has not been budgeted for, will have to be initiated.

Under these circumstances, does it still make sense to proceed with A-6F development?

ANSWER: Given the composition of the A-6 inventory we must procure additional A-6 aircraft in the late 1980's and early 1990's to preserve the force structure. Since the wing life problem must be resolved in order to procure these aircraft a great deal of attention has been given to the potential competitive development and procurement of a longer life A-6 wing. The Secretary of the Navy is exploring a common wing for retrofit to fleet A-6E's, for current production A-6E's, and for the future production of upgrade A-6Es (A-6F) through 1991; a total of 408 wings.

The A-6F program seeks to develop an upgrade configuration that will allow the A-6 to maintain its effectiveness in the early to mid 1990's as well as resolve the impending inventory shortfall.

As currently programmed the first procurement of A-6F will occur in Fiscal 1988 (with delivery in 1990 and IOC in 1991). Since the required new wing development will provide the first new wing in Fiscal 1987 (for the last buy of A-6E) it will be available for the A-6F procurement beginning in FY 1988.

RESEARCH, DEVELOPMENT & ACQUISITION

QUESTION: Dr. Wade, the FY 1986 Navy RDT&E request shows a 16.5 percent real growth over FY 1985 funding. Most of that \$2 billion increase is coming in six major programs: J VX, A-6F, TRIDENT II, New Design SSN, the F-14D and the T-45 HAWK Trainer. Can you indicate to the Committee the relative priority of each of these programs in accomplishing the Navy's mission?

ANSWER: Our first priority is in our deterrent posture, and that is the nuclear balance. Therefore, TRIDENT II is the highest priority. The remaining conventional programs cannot be prioritized as they are in different mission areas.

MISSIONS PERFORMED BY OTHER EXISTING SYSTEMS

QUESTION: Can any of the missions performed by these systems be accomplished by other existing systems at less cost?

ANSWER: The J VX, A-6F, Trident II, New Design SSN, F-14D, and T-45 HAWK Trainer are all being developed against validated requirements to fulfill operational voids as measured by performance deficiencies in our current systems (e.g., J VX) and/or the absence of required capability (e.g., T-45 HAWK Trainer). While in several instances the "new" systems are successors to current capabilities (for example, the Trident II is a replacement for the Trident I, the New Design SSN replaces the SSN 688 class of submarines, the F-14D replaces the F-14A), the existing systems do not provide performance envelopes required to defeat the threat against which the "successor" systems are being designed and developed. The possible lower cost of the existing system is not at issue if it cannot provide the required performance levels. In sum, the J VX, A-6F, Trident II, New Design SSN, F-14D, and the T-45 HAWK Trainer represent the preferred systems to satisfy their respective mission requirements at the lowest possible cost.

ADVANCED TACTICAL FIGHTER (ATF)

QUESTION: Your budget request for the Advanced Tactical Fighter (ATF), the Air Force's advanced fighter for the 1990s and beyond, more than doubles from \$94.3 million to \$242.9 million. Yet you have also chosen to product improve the F-15 and F-16. Given the current budget squeeze on defense, and your earlier decisions to improve the F-15 and F-16, can't we afford to stretch out the ATF?

ANSWER: Although planned improvements will extend the viability of F-15 and F-16 aircraft through the 1990s, inherent system limitations make it impossible to improve the F-15 or the F-16 to meet ATF mission requirements. The projected threat in the 1990s includes a significant look-down/shoot-down capability. The ATF will be required in the mid-1990s to successfully contend with this threat and conduct air superiority missions over enemy territory.

GROWTH IN CIVILIAN RDT&E EMPLOYEES

Question: Information provided to the Committee indicates

that total compensable RDT&E civilian workyears increases from 45,797 in FY 1985 to 50,955 in FY 1986.

Why is your total workyears for RDT&E civilian employees growing by 10 percent?

Answer: Army research and development labs will be transferred from the Army Industrial Fund to direct RDT&E, Army funding in FY 1986. This change in funding accounts for almost 4,500 of the workyears that will be paid in RDT&E in FY 1986. Excluding this change, growth in civilian workyears is just over one percent and reasonable considering the necessary program increases included in the budget.

COMPETITION BETWEEN BASING OPTIONS

QUESTION: The FY 1986 budget request for the Small ICBM is \$625 million, an increase of \$164 million over FY 1985. You also are requesting \$152.2 million for Hard Silo Technology.

You are evaluating both hard mobile and hard silo basing concepts for the Small ICBM. Does full competition exist between these two basing options?

ANSWER: Yes, the development program is structured to provide a full evaluation of both concepts. Up to this point, we have expanded more funds evaluating the hard silo concept, but that was because nuclear effects tests could be performed earlier in the program for this concept.

MOST PROMISING BASING CONCEPT

QUESTION: Which basing concept appears most promising in terms of survivability? Which is least expensive?

ANSWER: The answer to both questions is very dependent upon land availability and the outcome of planned nuclear effects testing. The Legislative Environmental Impact Statement (LEIS) process necessary to identify suitable land has started and the tests will be completed by the fall of 1986 when we will have the data to answer both questions.

SMALL ICBM COSTS

QUESTION: Isn't mobile basing just too costly, in terms of personnel and operations costs, to be used as a sole basing mode for the Small ICBM?

ANSWER: We cannot answer that until the current system definition studies are completed so we can make a decision on basing by the fall of 1986. We are, however, strongly emphasizing ways for reducing personnel and operations costs in all concepts under evaluation.

C³ FOR SICBM OFF BASE

QUESTION: The Small ICBM will be based on federal land (DoD bases) if it is deployed in a hard mobile configuration. But the missile will be forced to go off base in the event of an attack.

How will this complicate your command and control of ICBM's? Will ground mobile launch control centers have to be deployed off base?

ANSWER: Since most of the concepts being studied include off base ground mobile launch control centers under all conditions to improve C³ survivability, off base dispersal should not complicate the command and control of the Small ICBM s.

HIGH TECHNOLOGY PROGRAMS (VHSIC AND SUPERCOMPUTERS)

Two high technology programs that receive substantial funding increases are VHSIC (Very High Speed Integrated Circuits) and the DARPA Supercomputers program. VHSIC increases from \$135 million to \$193 million, while the Supercomputers program nearly doubles, from \$72 million to \$142 million.

QUESTION: How high of a priority are these two programs to your overall science and technology efforts?

ANSWER: These programs are two of the highest priorities in the DoD Science and Technology Program. Both programs are putting the United States in a position of clear leadership in the military application of state-of-the art technology in the fields of microelectronics and computers. The development and deployment of these critical technologies will provide a strong military posture and spinoffs to the private sector.

Over the past few years, the VHSIC program office has continually told Congress that the program was underfunded. Last year Congress added \$15 million to VHSIC to start Phase II submicron chips, even though only one of six of the VHSIC Phase I contractors had delivered its 1.25 micron chips on time.

QUESTION: Just what is the status of the VHSIC Phase I and Phase II efforts at this time? Are any of the Phase I chips being redesigned to enhance their yield and producibility?

ANSWER: Two-thirds of the Phase I chips have been fabricated. Contractors selected for Phase II have substantially completed Phase I: one has completed all tasks, one other will complete all tasks with a full-up brassboard demonstration this month and the third will do so in May. The VHSIC yield enhancement programs have achieved lot yields as high as forty-three percent. Thirty-seven DoD system programs are participating in VHSIC technology insertion efforts. The half-micron E-beam lithography machine has completed final demonstrations and is ready for production for Phase II. Phase II has been under way for six months. The first deliverables have been received (nine wafers of test structures and their wafer probe cards). In addition, a draft specification of Phase II chip interoperability standards has been delivered.

It is both normal and necessary in integrated circuit (IC) development for some device redesign to occur during yield improvement efforts. A portion of the VHSIC yield enhancement effort is following this customary IC product development cycle to

achieve higher yields and improved producibility of parts meeting VHSIC specifications.

QUESTION: As for the Supercomputer program, what are some of the potential defense applications of supercomputers?

ANSWER: Defense applications for our new multiprocessor supercomputers are virtually limitless: wherever there is a need for 100 to 1,000,000 more computing power, e.g., real time applications; wherever there is a need for much more cost effective computing; and wherever there is a need for more compact supercomputing, e.g., in the field, on platforms, in space. Examples of real time applications include analysis of massive quantities of overhead imagery, simultaneous tracking of thousands of targets in both tactical and strategic scenarios, interactive tactical battlefield modeling and simulation, search through massive intelligence data bases, fusion of multiple sensor and signal data sources, and cryptology. Examples of mobile applications for Defense supercomputers where volume and power are of a premium would be a new generation of extremely intelligent cruise missiles, a pilot's associate system in a fighter aircraft cockpit, autonomous vehicles (land, undersea, sea, and air), and space signal processing applications.

QUESTION: What would be the impact on maintenance of competition in the Supercomputer program if the FY 1986 appropriation increased by 50% rather than double?

ANSWER: As a result of national competitions run during FY 1984 and FY 1985, the Strategic Computing Program has a substantial contractor base already under contract, or about to begin under contract within the next few months. In the second half of FY 1985 the program will be running at an annual expenditure rate of \$142 million, the amount proposed to the Congress for FY 1986. An increase in FY 1986 of half that requested, namely from \$172 million to \$108 million, would effectively be a cut of about 25% in spending rate. It would have a devastating effect on the effort through program curtailments and contract cancellations just as the effort is reaching critical mass. We would need to step back from our goal of increased Defense support for advanced university research, and expanded involvement of new universities not traditionally supported by DoD. We have worked hard to forge industry-university teams in order to accelerate the transfer of laboratory research results to viable products for Defense and commercial applications: many of these teams would be broken up and, practically, could not be reinstated in the future. Finally, we have managed to capture the imagination, attention and labor of the very best people in the field of computer technology, channeling their attention toward this National goal. The shift of their activities to work that might be more profitable in the nearer term or to more conventional career activities, would cause an insurmountable impediment to achieving the revolutionary advances we have anticipated. It would be a more serious blow to our ability to generate this highly important defense technology and would adversely affect our ability to compete with Japan.

QUESTION: At this point in time, how does our computing capability compare with Japan?

ANSWER: [Deleted].

The open literature gives much significance to the Japanese Fifth Generation Project, which seeks to gain preeminence for Japan

in the world computer market by the use of artificial intelligence techniques and highly parallel hardware architectures.

RECENT CHANGES TO LAWS AND REGULATIONS

QUESTION: Identify all the changes (increases and decreases) in incentives allowed and/or provided to defense contractors since 1980 to include changes in taxes and acceptable accounting procedures. For each of these incentives, what is the estimated cost in either direct dollar payments or "tax expenditures"?

ANSWER: There have been no changes in incentives allowed and/or provided specifically for defense contractors since 1980. All tax payers were provided tax incentives under ACRS. All taxpayers have had tax incentives removed due to changes in the completed contract method of tax accounting as prescribed in the 1982 Congressional revisions to the tax code.

The tax revisions have no impact on contract cost. In connection with tax expenditures, the Department of Defense has no responsibility or method of determining the impact.

QUESTION: Briefly describe the expected or planned benefit from each of these incentives.

ANSWER: The ACRS was intended to accelerate capital investment. The changes in the completed contract method of tax accounting was intended to accelerate the taxes paid by industry.

QUESTION: What evidence is there that these incentives are having the desired effect?

ANSWER: DoD has no way of specifically determining the impact of changes in tax rules and regulations because changes in taxes have no impact on contract costs.

QUESTION: When will the current study on defense profits be finished and published?

ANSWER: The study will be completed by May 31, 1985.

QUESTION: Identify and describe any statutes, if any, which currently limit profits on defense contracts. Describe how they are administered by the DoD.

ANSWER: 10 U.S.C. 2306(d) provides that in the case of a cost-plus-fixed-fee contract the fee shall not exceed ten percent (10%) of the estimated cost of the contract, exclusive of the fee, as determined by the Secretary concerned at the time of entering into such contract (except that a fee not in excess of fifteen percent (15%) of such estimated cost is authorized in any such contract for experimental, developmental, or research work and that a fee inclusive of the contractor's cost and not in excess of six percent (6%) of the estimated cost, exclusive of fees, as determined by the

Secretary concerned at the time of entering into the contract, of the project to which such fee is applicable is authorized in contracts for architectural or engineering services relating to any public works or utility projects. These requirements of this statute have been implemented in the Federal Acquisition Regulation at 15.903(d).

QUESTION: Congress allowed the Contract Renegotiation Board and the Cost Accounting Standards Board to lapse. What impact have those lapses had on the defense acquisition process and acquisition costs?

ANSWER: We do not believe that the lapse of the Renegotiation Board has had any negative impact on the acquisition process and acquisition costs.

For the past four-year period, the lapse of the Cost Accounting Standards Board has had a very negative effect on the acquisition process and acquisition cost. Because of dynamic changes in the business world, the lack of an organization with authority to revise or amend the CAS standards and regulations has resulted in the out-dating of a number of these provisions. Recently, however, based on a legal opinion of the Department of Justice, DoD has assumed authority over CAS. We have established a Cost Accounting Standards subcommittee within the Defense Acquisition Regulatory Council to administer CAS. This subcommittee will become functional in the near future. At that time, it will take actions to revise the CAS regulations and standards as appropriate and eliminate the impact resulting from the lapse of the Cost Accounting Standards Board.

Procurement Strategy for FSED Candidates

QUESTION: For each system which entered FSED in fiscal year 1984, provide the Department's approved acquisition strategy as it regards competitive procurement.

ANSWER: The following are the Department of Defense's major acquisition programs that were reviewed by the Defense System Acquisition Review Council (DSARC) at milestone II leading to FSED. The planned competition strategy for each program has been indicated.

Army - none

Navy

- o MK-50 Torpedo-Planning to review major components of the torpedo for potential second sourcing strategy.
- o DDG-51 - After the first ship is built, the Navy plans to select a second shipyard to participate in building the vessels.
- o T-45TS (VTXTS) - Directed to determine the extent of production second sourcing potential for the program.

Air Force - none

QUESTION: What are the systems and expected dates of approval for initiation of FSED in FY 1985?

ANSWER: The following are the Department of Defense's major acquisition programs which are scheduled for a DSARC review in FY 1985 at milestone II leading to FSED. The planned competition strategy direction for the appropriate programs already reviewed are indicated.

Army

- o SHORAD C-2 - To Be Determined

Navy

- o JVBX September 1985
- o SSN - 21 May 1985
- o HFAJ (Formerly HFIP) May 1985
- o CV HELD 15 June 1985 - Directed to determine the extent of production second sourcing potential for the program.
- o SUBACS September 1985

Air Force

- o WIS May 1985
- o C-17 2 November 1985 -Directed to determine the extent of production second sourcing potential for the program.
- o I-S/AAMPE June 1985
- o JSTARS June/July 1985

QUESTION: What systems are proposed for FSED during FY 1986?

ANSWER: The following are the Department of Defense's major acquisition programs which are scheduled for a DSARC review in FY 1986 at milestone II leading to FSED.

Army

- o MLRS/TGW December 1986

Navy

- o ASW Stand off Weapon June 1986

Air Force

- o ENH. JTIDS(Seektalk) 1QFY 1986
- o AMLS FY 1986
- o SRAM II March 1986

Manufacturing Technology R&D Funding

QUESTION: In a report to this Committee, the Department voiced a concern that if the Department's \$200 million plus Manufacturing Technology Program continues to be totally funded with R&D funds, a void will be created in "an important industrial base area." Why is the Department totally funding this program out of the R&D accounts? This was not directed by the Congress?

ANSWER: The Department believes it had both explicit and implicit direction from the Congress to fund the Manufacturing

Technology Program totally from the RDT&E appropriations:

1) Source: An insert for the record from the House Appropriations Committee hearing February 1978, transcript page 1638:

"Mr. Addabbo: For the past several years, the Committee has questioned the Department's policy of budgeting programs for manufacturing technology, ... in the procurement appropriation. For the most part, the Committee believes that these programs are essentially research and development in character and should be funded in the research appropriations of the various services. This year, the Department has again proposed to budget these programs in the procurement appropriation. ... Please justify the continued insistence on budgeting these programs in the procurement appropriation."

An answer was provided by Dr. Perry.

2) Source: House of Representatives Report on the DoD Appropriation Bill dated November 30, 1982, page 105 of the [Full Committee Print]:

The following is the first ManTech reference in the report and is directed at the ManTech funds included in Aircraft Procurement, Army.

"This is a level of effort program aimed at developing improvements to production technology. ... While the Committee supports these programs, it believes these projects are research in nature, and should not be funded in the procurement appropriation. Accordingly, the Committee recommends a reduction of \$9.2 million, and directs the Army to conduct this program within available funds in the research and development appropriation."

A series of additional paragraphs directed that the remainder of the Army's ManTech Program be funded from RDT&E.

3) Source: House of Representatives Conference Report No. 97-980, dated December 20, 1982, page 114:

"The Conferees have agreed to the reductions proposed by the House for manufacturing methods and technology and military adaptation of commercial items programs funded in Army procurement appropriations. [The Army's entire ManTech budget was reduced to zero in the procurement accounts.] However, \$50,000,000 has been included in the RDT&E, Army appropriation to carry out these programs in fiscal year 1983."

The net effect was to fund the Army's entire fiscal year 1983 ManTech program from the RDT&E appropriation.

4) Source: Internal OSD Memo for Record dated January 14, 1983 concerning a meeting between DoD staff and a principal staff member of the Defense Appropriations Subcommittee of the House Appropriations Committee.

The subject of the meeting was the Congressional action referenced in 2) & 3) above. The HAC staff member confirmed that he did not disagree with the content of the Army's ManTech program but that he believed since it funded engineering work, it should be funded from RDT&E. He stated that he also intended to move the Navy's and Air Force's ManTech programs into RDT&E in fiscal year 1984. "He was unwavering in his insistence that all engineering be funded from RDT&E even though it might focus on production problems."

5) Source: House of Representatives, DoD Appropriations Bill Report, dated October 20, 1983, page 111 & 112 of [Full Committee Print]:

"The Committee's action last year was based on the belief that the projects undertaken under this program were engineering,

testing, and development in nature. Funding of these types of projects is most appropriate in the RDT&E appropriations where such efforts should be initiated and not in the procurement appropriations which funds the buying of hardware end items. ... The Committee supports the MM&T program and acknowledges that cost savings can result from some of the projects. However, the Committee continues to believe that it is properly funded in RDT&E and not procurement."

The House then reduced the entire DoD ManTech budget request by 25% and moved the fund request for all three Military Departments into the RDT&E appropriation. Subsequently the Senate Appropriations Committee approved the DoD ManTech budget as submitted and the issue was resolved in the Conference Committee.

6) Source: Conference Committee Guidance on Fiscal Year 1984 Budget contained in the Congressional Record dated November 18, 1983, page H 10451.

"The conference agreement provides \$173 million in the R&D appropriation as proposed by the House. [The budget request was predominately for procurement funds.] This is done in recognition that most, if not all, of the projects undertaken in this program are engineering in nature and therefore, properly funded in RDT&E. However, the conference agreement also includes \$28 million in selected procurement appropriations. The conferees agree that where an MM&T project has successfully passed the engineering, testing, and evaluation phase, actual hardware procurement is legitimately funded in the procurement appropriations. As such it shall be funded as a separate MM&T procurement line."

QUESTION: A problem with converting to incremental funding of procurement contracts was noted. This was not directed by Congress and is not consistent with DoD full funding policy. Why is the Department doing that?

ANSWER: The DoD report to the Senate Appropriations Committee has apparently been misinterpreted. The problem of converting procurement funded contracts to incremental funding occurred with those investments whose initial phases were fully funded with procurement funds but then had to be completed with an incrementally funded R&D contract because only RDT&E funds had been appropriated to complete the work.

QUESTION: If the actual funding of production line demonstration equipment is funded with procurement funds, wouldn't that problem be solved? If not, why not?

ANSWER: It is DoD's view that it would not be advisable to split ManTech investment into two distinct, separately funded activities - one for technology creation/refinement and the other for factory floor tryout to verify that the technology works. Such an approach would undoubtedly be counter-productive.

The creation of advanced manufacturing technology in the ManTech Program differs from other technology development processes. Generally there already exists at least one way to reach the end point - the existing production process(s) - hand layup in the example below. The goal is to refine, modify or replace that existing process with one which produces the same product(s) - but more efficiently.

For example, if one intended to improve the rate or quality of producing composite skins for aircraft by establishing an advanced composite tape layup device instead of using hand layup, he would

have to design and then build that device in order to verify that the new technology actually worked. The device might not work correctly the first time and the design of the device would have to be modified until it worked. It would not be prudent to attempt to use two different appropriations (subject to different administrative and contractual ground rules) to fund the entire effort.

Advanced, factory floor manufacturing technology such as that described above is rarely created or implemented after an incident of inspirational insight into a problem but rather evolves in an iterative process of: a) suggesting a solution (perhaps a refinement of the current production process), b) try it, c) revise the solution if it did not work, d) try it again etc., until the advanced technology works. An administrative requirement that would dictate funding the creative process from one appropriation and the process of verifying the results on the factory floor from another appropriation would undoubtedly curtail if not actually kill the program's effectiveness. It is DoD's view that both phases of ManTech investments should be funded from the same appropriation.

QUESTION: The report also found that the differences in goals and objectives of the R&D and production communities was a problem in the allocation of manufacturing technology funds. Congress moved the funds to the R&D accounts to force a better understanding of production issues into the R&D process.

Why can't the R&D and the production communities coordinate their mutual interests?

ANSWER: Generally, the DoD R&D community views its mission as developing efficient products while the production community believes its mission is to produce those products efficiently. Thus, under even the most ideal organizational coordination conditions, the DoD R&D community will naturally tend to place higher funding priority on their perception of the Department's needs rather than on ManTech which is a industrial base related program.

"Pre-Planned Product Improvement"

QUESTION: Pre-Planned Product Improvements: Your statement notes the potential for savings from extending the life of existing systems which might be otherwise curtailed. What systems have been selected for extensions?

ANSWER: The objectives of Pre-Planned Product Improvement (P³I), in addition to useful life extension, are: shortened acquisition and deployment time; reduced overall acquisition and operating cost; postponed military obsolescence; reduced technical, cost and schedule risk; orderly growth in reliability and reduced initial logistics and support problems. P³I is ideally applied to a new program at initiation during its conceptual phase selection and validation. The M1A1 tank with its 120mm gun system is an example of successfully meeting such objectives. The LHX is an example of a new program with P³I provisions. The engine selection will be based in part on capability to achieve 50% growth in performance within 10 years.

It is very difficult, if not impractical to meet P3I objectives on a system once it has entered engineering development if growth potential was not part of the original design parameters. In many of these cases, growth in capability may not be cost effective if it causes deterioration in reliability and increased logistics. Life extension decisions are not made in advance of gaining experience with the system as initially deployed and the realization of the military need for the incremental capability inherent in the system.

EXTENDING THE LIFE OF EXISTING SYSTEMS

QUESTION: Have any of these extensions led to the termination or redirection of R&D programs? If so, which ones? If not, why not cancel the LHX, AMRAAM and the DRAGON replacement, for example?

ANSWER: Extending the life of existing systems typically impacts the Department's procurement initiatives as opposed to the Research, Development, Test and Evaluation programming. When the service life of an existing system is extended, the consequence is that a replacement system need not be procured. Most of the fleet of older aircraft carriers--Independence, Forrestal, and Saratoga--have undergone service life extension programs. Also, several aircraft in the airlift fleet have had life extension programs. Examples in this regard include the re-winging of the C-130 and C-5 and the internal restructuring of the C-141. The point being that no new aircraft carriers nor airlift aircraft were required because the service life of existing systems was extended. The LHX, AMRAAM, and the DRAGON replacement are being developed against validated requirements to fulfill operational voids, as measured by performance deficiencies in our current systems. There are no plans to extend the service life of the forerunners to the LHX, AMRAAM, and the DRAGON replacement, since none of the forerunners would satisfy the stated performance requirements.

HIGH TECHNOLOGY PROGRAMS (VHSIC AND SUPERCOMPUTERS)

QUESTION: Do you consider the VHSIC program to finally be fully funded?

ANSWER: Yes. However, so long as viable technology is being successfully developed, it is imperative that we seriously consider making additional investments to capitalize on our achievements. Technology application is, after all, the motivation for the program.

QUESTION: We understand that nine Supercomputers are to be developed and produced under the DARPA Supercomputer program. What is the requirement for the development of nine separate versions of Supercomputers?

ANSWER: Current, conventional supercomputers perform "to spec" on some problems, but more commonly run ten, a hundred or a thousand times slower than their maximum speed. That is, they act like specialists, excelling on certain types of problems. Similarly, the multiprocessor systems being developed within the Strategic Computing Program show a degree of specialization in their performance, to areas such as signal processing, data base searching, artificial intelligence symbolic calculations, or large scale numerical calculations in, say, certain areas of physics. Different

designs are being investigated in the Strategic Computing Program in order to provide the breadth of technology required to span important DoD problems. Just as there is no single vehicle to serve all Defense needs on land, on the sea and underwater, and in the air, so there is no single supercomputer design that will be effective for the full range of Defense problems. To the extent that different designs in the Strategic Computing Program overlap in function, this approach provides valuable competition and a multi-source backup strategy in this risky technology area. This significantly increases the chance of success within the program.

QUESTIONS SUBMITTED BY SENATOR WEICKER

JVX AND LHX PROGRAMS

QUESTION: In its report entitled Improved Defense Through Equipment Upgrades, dated November 1984, the Defense Science Board recommended (page 12) "the services should fund upgrade programs aimed at increased combat capability in parallel with new system developments." The report goes on to say "Forthcoming examples of new programs for which a parallel upgrade effort should be funded in competition include the Light Helicopter Experimental (LHX) and the Joint Vertical Takeoff Aircraft-Experimental (JVX)" programs.

Please provide specific examples of parallel upgrade efforts that should be funded in competition with LHX and JVX.

ANSWER: The DSB study recommendations on competing existing aircraft upgrades in parallel with major new developments has not been implemented as DoD policy. However, prior to initiating the V-22 (JVX) program, a detailed analysis of alternatives was conducted to include upgrading the Services' existing helicopters. These alternatives were not deemed to be cost-effective and were rejected. For example, the Marine Corps' CH-46 medium assault transport has been in service since the mid-1960s and has already undergone a Conversion In Lieu of Procurement (CILOP) and is currently completing a safety, reliability and maintainability (SR&M) program to enable these aging assets to be operated until the end of their service life. Further enhancements were ruled out since the CH-46 is out of production, and declining force levels due to attrition and expiration of service life dictate that replacement aircraft should begin entering the inventory by 1991. While other Service helicopters could be selectively upgraded to improve their utility in some mission areas to be covered by the V-22A, funding these efforts would not have resulted in a true competitor to the tilt-rotor design when measured against the critical JSOR elements of speed, range, self-deployability and survivability.

With regard to the LHX, there is an on-going assessment to identify specific examples of parallel upgrade efforts. As of this date, OSD has not identified any specific examples.

QUESTION: Explain exactly how this process would work.

ANSWER: Since there have been no specific examples of parallel upgrade efforts identified for the JVX or LHX, the process cannot be described at this time.

Soviet Radar Technology

QUESTION: How would you compare the technology at this facility with existing U.S. radar technology?

ANSWER: [Deleted].

Soviet Radar Utility

QUESTION: From the standpoint of technology, is this radar more suitable for battle management or space surveillance?

ANSWER: [Deleted].

Radar Military Effectiveness

QUESTION: How would you judge the military effectiveness of this radar?

ANSWER: [Deleted].

Radar Vulnerability

QUESTION: Could it be attacked successfully or is it hardened and does it have protective missile systems.

ANSWER: [Deleted].

QUESTION: Looking at Table II-2 of your 1985 report, which shows "Relative U.S./USSR Standing in the Twenty Most Important Basic Technology Areas" it's clear that the United States holds a wide lead over the Soviet Union in star wars related technology. Isn't that correct?

ANSWER: As indicated in Table II-2 of the FY 1986 DoD Program for Research, Development and Acquisition, the United States does lead the Soviet Union in many of those technologies applicable to the Strategic Defense Initiative. This is a good example of an area where the U.S. can leverage our technological advantages. There are areas, however, where the USSR has devoted large resources to directed energy efforts applicable to weapons in which their capability equals or exceeds that of the U.S.

QUESTION: Isn't also correct to infer from this chart that the Soviets are not ahead of us in any of the basic technology areas that might be related to star wars?

ANSWER: Table II-2 shows that on balance the Soviets are not ahead of the United States in any of the 20 most important broad basic technologies related to military equipment. However, they may be ahead in some specific technologies within each of the broad areas. They have excelled in several specific areas related to Strategic Defense and in some not directly addressed in the table.

QUESTION: It also seems that our lead over the Soviets in star wars related technology is widening. The chart indicates that in electro-optical sensors and micro-electronics we've

increased our lead over the Soviets from 1984, while they only narrowed the gap in submarine detection. Is that true?

ANSWER: Assessments in the technology comparison tables are based on a number of factors and changes from year to year could be representative of changes in intelligence available and/or actual shifts in the relative standings of a particular technology. The trends are what are important. The U.S. has historically been the leader in the two areas that you mention in a broad sense. For this reason, we need to protect our advances in these important areas. However, a U.S. lead does not mean that the Soviets are deficient. They continue to work the advanced weapons area and appear to be making good progress.

QUESTION: Let's look at indicators of the state of each side's star wars (SDI) technology. How do we compare with the Soviets on the following technologies? Who's ahead?

- a. Radar and optical discrimination.
- b. Radar and laser imaging technology.
- c. Booster and warhead surveillance and tracking.
- d. Space-based laser and ground-based laser technology.
- e. Particle beam weapons.
- f. Nuclear-pumped lasers.
- g. Space- and ground-based kinetic energy weapons.
- h. Computer technology needed for battle management, C³.

So overall, what is your assessment of who's ahead in star wars technology, the United States or the Soviet Union?

ANSWER: U.S. and Soviet technology has not been compared to the level of detail indicated in your question. Gross comparisons of U.S. and Soviet technology is imprecise at best. The accuracy of the comparisons to the levels indicated would be questionable.

What is clear is that the United States does lead the Soviet Union in most basic military technologies. This is one reason why it is prudent for us to capitalize on this technological advantage by pursuing the Strategic Defense Initiatives. We must remember, however, that the Soviet approach to developing and fielding weapons is totally different than that of the U.S.--and their approach serves them well. Often, three to five year old technology deployed soon provides the USSR with a very fine weapons system. Assessment in leads and lags in basic technologies cannot be directly translated to assessments of relative weapons quality and military significance or strength.

QUESTION: How important is the Over-the-Horizon-Backscatter Radar warning system, given the Soviet Backfire bomber, ALCM and SLCM threats? How likely is it that this program would be cut in a budget freeze?

ANSWER: By the year 2000, the number of Soviet strategic bombers capable of striking North America is projected to increase from [deleted]. In addition, long-range cruise missiles (air-, sea-, and ground-launched) will be added to Soviet forces and are expected to grow from [deleted]. These improvements could have considerable strategic impact. The Soviets will gain significantly increased target coverage and targeting flexibility. For example, [deleted].

Even more stressing to the warning system would be Soviet use of

sea-launched cruise missiles (SLCMs). These weapons could be launched against North American targets from locations where [deleted].

The Over-the-Horizon-Backscatter (OTH-B) radar is the only cost-effective capability which will provide wide area early warning against these threats by the end of this decade or by the early 1990s for our eastern, western, and southern coastlines. Subject to a detailed evaluation of all priority programs, a budget freeze might cause an OTH-B reduction quantity, but would not deter the Department's commitment to acquire and field the OTH-B as soon as possible.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

QUESTION: The Soviets have a real Five Year Defense Plan. In contrast, the U.S. has a rolling one year defense plan. Do these differences in defense planning contribute to shorter Soviet weapons acquisition cycles, on the average?

ANSWER: The time for Full Scale Development for both the Soviets and the United States is about the same (8-15 years for a new system or major modernization program). The Soviet real five year planning cycle contributes substantially to improved stability in their weapons acquisition process which tends to reduce cost as well as eliminate any delays caused by delayed annual approvals.

QUESTION: Given the fact that in most areas of defense production the Soviets grossly outproduce the U.S., if current production rates are maintained for five years, will the U.S. ever be able to catch up quantitatively?

ANSWER: Traditionally the United States has relied on technological superiority to try to offset the Soviet quantitative advantages in key areas. It is not considered practical to match numbers of Soviet deployed equipment. To do so would not only be inordinately expensive but it would not be a wise strategy for the U.S. The only major weapons category in which the United States out-produces the Soviets is major surface combatants (900 tons and over). If the differential in production rates continues in the other classes the United States will never "catch up" to the Soviets quantitatively.

QUESTION: What U.S. rates of military production would be necessary for the U.S. to catch up quantitatively with the Soviets in five years?

ANSWER: The expense would be tremendous if U.S. policy were to change and we chose to attempt to match the Soviets in numbers of deployed equipments. For example, to "catch up" with the Soviets in five years the U.S. would have to produce roughly 10,000 tanks and over 1,000 fighter/attack aircraft per year. This compares with current production rates for our forces of about 640 tanks and 360 fighter/attack aircraft per year.

Multi-year Contracting

Question: Why are most multi-year defense contracts in the naval shipbuilding area?

Answer: Most multi-year contracts are not in the shipbuilding area. All three services have participated in selectively using the

multi-year contracting technique for the acquisition of their respective weapon systems. As a result our multi-year programs are represented by a variety of systems that include aircraft, helicopters, tanks, armored vehicles, engines, electronics, satellites, ships and missiles. In fact, the LHD ships, an FY1986 multi-year candidate, is the first time a ship has been submitted as a multi-year candidate. We will continue to select a mix of programs for multi-year contracting.

Question: What is being done to increase multi-year contracts in defense procurement?

Answer: Since FY 82 the Department of Defense has actively pursued the use of multi-year procurement (MYP) in the acquisition of weapon systems. From FY 82 through FY 85 we have submitted 50 multi-year candidates and the Congress has approved 32 of these candidates for an estimated savings of \$4.4B. This year our FY86 budget contains ten more candidate programs with an estimated savings of \$1.7B. Because of the continued emphasis we have placed on the use of multi-year for the acquisition of weapon systems our estimated FY1986 savings from previously approved programs exceeds the planned FY1986 investment in multi-year programs. This is the third consecutive year in which the savings which accrue this year from multi-year contracts started in earlier years is greater than the investment required for this years programs. We believe our MYP record illustrates continued emphasis by the Department of Defense.

R&D STATUS OF DDG51 (GUIDED MISSILE DESTROYER)

QUESTION: What is the R&D status of the DDG51 AEGIS class destroyer whose lead ship contract is about to be awarded?

ANSWER: The contract for the detailed design and construction of the lead ship of DDG51 class was awarded in April 1985 to Bath Iron Works, Inc., Maine. There is an ongoing R&D effort for the DDG51 combat system under a cost plus award fee (CPAF) contract signed in February 1984. In fiscal year 1986, the Navy is requesting \$100.9 million for DDG51 combat system development.

The combat system for the DDG51 destroyer will be a derivative of the AEGIS weapon system on the CG47 cruisers. It includes in part elements of the combat system contract competitively awarded in FY81 to RCA. It encompasses combat system engineering, SPYID radar engineering, mechanical and electrical interface development, Combat Information Center (CIC) design, initial logistics development, and computer program development of the various elements.

The procurement of warfare area equipment with the integration and testing at three engineering sites (Combat System Engineering Development (CSED), Program Generation Center, and Computer Program Test Site) are included in the overall combat system development. The current estimate for the development of the entire DDG51 combat system totals about \$520 million spread over nine years (FY81 to 89).

The combat system development is on schedule and in phase with the ship's construction and delivery plan. No cost increase has occurred over the planned estimate and none is currently anticipated.

MOBILE SUBSCRIBER EQUIPMENT (MSE)

QUESTION: What will be the main operational benefits of the new Army Multiple Subscriber Communications Equipment? Please describe the co-production aspects of the competing Rockwell-Ptarmigan and GTE - RITA systems. Does the U.S. approach to MSE co-production with NATO represent a useful new approach to increasing co-production with NATO?

ANSWER: The main operational benefits that the new Army MSE system will provide are reliability, responsiveness, flexibility, and survivability. This system will allow commanders to communicate orders, coordinate support, and provide directions to the force in spite of enemy interference, destruction of command posts, or loss of key personnel. Effective operations under the AirLand Battle concept depend on force synchronization. One means of achieving force synchronization is through the use of an effective and survivable Command and Control System. The new Army MSE system is a key means of providing this capability.

The MSE system being pursued by the Army provides the above benefits through the use of an automatic integrated Corps-Division common user communications network. MSE allows users the freedom to move about the battlefield without the constraints of being "tied or wired" to a manual, less responsive communications network that can not keep pace with the modern battlefield. To accomplish this task MSE uses a grid network of small communications nodes employing digital, automatic switches, interconnected by redundant line of sight radio communications links. This provides connectivity and enables alternate routing around nodes which may be jammed or inoperative. The network uses a process known as "flood search" which means a subscriber is assigned a fixed directory number (telephone number) and when called the system finds the subscriber regardless of location on the battlefield. This is accomplished quickly and automatically.

Static users of the MSE system are provided access into the network through a series of small extension switches deployed throughout the Corps and Division area. Users simply connect to the supporting switchboard which provides them access to the system. This allows units the freedom to move from location to location and still be assured of communications connectivity at all times. Additionally, the MSE system provides the capability to communicate secure voice and data while on the move. Selected users are furnished a Mobile Subscriber Radio Telephone (MSRT) terminal that provides telephone service to priority users moving about the battlefield. Again, the user of the MSRT has a fixed number and uses the system by simply dialing the telephone number of the wanted party. The system then quickly and automatically "finds" the dialed party.

Another operational benefit inherent in the MSE is its interoperability with other US Forces as well as other allied units. This is accomplished through "interface points" located at selected nodes throughout the network. Additionally the MSE system will interoperate with other Army communications systems such as Combat Net Radio and Tactical Satellite (TACSAT) terminals.

Use of the smaller communications nodes and communications assemblages will also provide the added benefit of increased mobility and transportability (fewer aircraft sorties). Another side benefit of smaller, automated assemblages is a reduction in manpower requirements.

The MSE program will not have co-production in the classical sense of producing the identical system in the US and in a NATO country. Rather, MSE will be an adaptation of a NATO system already in being with minor changes proposed to best meet US requirements. Thus the MSE will not be one hundred percent identical to those systems produced either for the French or British armies.

The contract will be awarded to the winning US prime contractor. The competing teams have proposed to initially produce all foreign developed equipment in the country of origin. Additionally, they have proposed to transition production of certain assemblies to US producers. The amount of equipment to be produced in the US is an evaluation factor in the source selection process.

A major difference between the MSE approach and prior co-production efforts is that R&D has been completed. Therefore, the way is clear to begin production without the potential difficulties inherent in a joint equipment development effort.

QUESTION: If Reserve forces are the cheapest kind of forces to maintain, why is there a shortfall of \$40 billion in combat equipment for our Reserve forces?

ANSWER: Allocation of equipment within the Department of Defense is based upon the "First to fight, first equipped" policy. Priority of equipment depends, not upon relative cost-effectiveness which is a force structure issue, but upon a unit's placement within the deployment sequence and its wartime mission. Active or reserve component status is relevant only to the extent that inherent peacetime deployment posture or mobilization constraints determine a unit's position on the deployment list. Accordingly, equipment shortages are also spread over both active and reserve units.

QUESTION: If the Soviets launch about three times as many military space launches as the U.S., why are the Soviets always attacking the U.S. for militarizing space?

ANSWER: It is true that the Soviets launch about three times the number of satellites as does the United States. However, the "life" of a Soviet satellite is significantly shorter than that of a similar U.S. satellite. As a result, the Soviets and U.S. have about the same number of satellites in orbit on any given day. The Soviets habitually do not provide information on their military space program as we do in a free society. Thus, the Soviets are free to attack our program while hiding behind a wall of no information and disinformation. They are free to say what they want others to believe, whether it is true or not, because they are not subject to the same constraints and scrutiny as the United States.

Long Range Planning Impact on the New Production Reactor (NPR)

Question: The FY 1986 DoD Program for Research, Development and Acquisition states: "We are also developing long-range plans that will allow us to meet future defense needs, when considering the constraints of limited resources or potential requirements changes that could result from either a major nuclear threat increase, technological surprise, a new arms control agreement, or a change in national strategy." (p. IV-11)

How will this impact on NPR?

Answer: One of the long range plans being developed is a joint DoD and DoE strategy that will assure an adequate supply of nuclear materials in the 1990's and beyond. At present this strategy will be one of renovation and replacement focused on time-phased, site unique actions. A NPR is one possibility being considered.

QUESTIONS SUBMITTED BY SENATOR BYRD

NEW INITIATIVES FOR UNIVERSITY BASIC RESEARCH

The DoD Basic Research program provides a substantial amount of funding for colleges and universities.

In your statement, you indicate that DoD is proposing "to provide funding for new research initiatives to foster stronger interactions between DoD laboratories and universities."
(Page VI-8)

QUESTION: What are these new initiatives?

ANSWER: The new initiatives are to support university fellowships, research assistantships, exchange of scientists, research instrumentation, and new multidisciplinary science and engineering research programs.

QUESTION: How much funding is provided for these new initiatives in the FY 1986 budget?

ANSWER: In the FY 1986 budget \$25 million is provided for this purpose.

QUESTION: What is likely to be the impact of these new initiatives on the programs of the colleges and universities in West Virginia? Please elaborate on this for the record.

ANSWER: These funds will be made available on a competitive basis to colleges and universities and individual research workers throughout the United States, including those in West Virginia.

PROJECTED SHORTAGES IN MILITARY MANPOWER

QUESTION: Over the next ten years, it is expected that DoD will have increasing difficulty meeting its goals for the enlistment of quality manpower. This difficulty arises from projections of smaller numbers of personnel in the appropriate age groups. Given this constraint on manpower, what can be done in weapons design and development to reduce crew sizes?

ANSWER: The impact of the declining youth cohort on the ability of the Armed Services to recruit volunteers is greatly overstated. It is a fact that the youth population is shrinking. Between 1979 and 1985, the 18-year-old male population dropped by 14 percent and will decline an additional 11 percent through 1992. In a similar manner, the 18 to 24 year-old male population has fallen 6 percent and will drop another 18 percent by 1996. We believe it is important to note, however, that the peak year for the 18-year-old population, 1979, was the worst recruiting

year since the inception of the all volunteer concept. Conversely, the Department achieved excellent recruiting results during the period that the youth population declined (1981-1984). One reason for this seemingly contradictory performance is that the new accession requirements of DoD are small relative to the 18 to 24-year-old male population, as demonstrated in the table below.

	DoD Active Force Male Accession Reqts 000s	18-24 Year Old Male Pop 000s	Accession Req as a Percent of Population
1974	364.2	13,736	2.6
1979	274.0	15,186	1.8
1984	273.7	14,991	1.8
1989	282.0	13,419	2.1
1996*	285.0	11,840	2.4

* Year that 18-24 year old male population reaches its minimum.

You should also note that even after the available market reaches its minimum, DoD will require a smaller percentage of the available youth population than in 1974, a very successful recruiting year. Our continued success in recruiting, even while the economy has greatly improved, also suggests that some other conditions are mitigating the impact of fewer youth entering the job market. New research soon to be released indicates that the large increase in female participation in the labor market combined with the significant increase in immigrants and older displaced workers have acted to reduce the demand for youth labor. In other words, these groups with little applicable job experience are competing for the same jobs that were formerly filled by unskilled youth. It is expected that this economic substitution effect will continue at least into the late 1990s.

This is not to say that the shrinking pool of military-age youth will not make recruiting more difficult. It will, particularly if the economy stays strong. However, we believe we can successfully recruit high quality volunteers as long as we continue to offer competitive pay and provide the Services with adequate resources and incentives to accomplish the difficult recruiting mission.

Even so, we do not ignore the need to consider the manpower impact of new weapon systems. Our policy states that weapon system manpower requirements estimating must be conducted throughout the design process, progressing from preliminary estimates to more detailed requirements and workload analysis. These estimates should relate the system design characteristics and operational requirements to the manpower that will be needed to operate and support the system throughout its operational life. Among techniques used to address manpower requirements are doctrinal and

operational concept review, human factors engineering, value engineering, and other approaches. The Department is interested in minimizing the manpower needed to effectively accomplish the mission assigned new weapon systems, and includes a review of manpower considerations in its oversight of weapons design and development. The Department also has research on-going to improve upon manpower estimation processes in weapon design and development.

PROJECTED SHORTAGES OF MILITARY MANPOWER

QUESTION: The Army has expressed the desire to have only one pilot on the new LHX helicopter. Are there other initiatives such as this underway?

ANSWER: There are several other on-going programs wherein the Army intends to reduce the system's overall dependency on skilled manpower. The most notable is the Army's Tactical Robotic Systems program which has been structured to exploit the tremendous potential for increasing manpower effectiveness in combat and combat support offered by robotic technology and integrated vehicle sensors. The operational concept calls for a vehicle that will receive orders from a remote command center and a suite of sensors to interpret terrain, obstacles, stationary or moving targets, troops, perform surveillance and, possibly, identification of friend or foe. Another initiative undertaken by the Army to reduce manpower dependency is the Remotely Piloted Vehicles programs. The obvious intent is to conduct the reconnaissance and target acquisition/designation in those missions where observers could not survive.

PROJECTED SHORTAGES IN MILITARY MANPOWER

QUESTION: In reviewing new weapons development programs, does DoD encourage manpower savings designs?

ANSWER: The Department does encourage the development of weapon systems that incorporate manpower savings. Manpower estimates are required throughout the design and development process and are reviewed at each stage of the cycle, particularly at DSARC decision milestones. Maintenance concepts which would reduce manpower and skill requirements are actively solicited. Improvements in reliability and maintainability of our weapon systems often result in manpower savings, or avoidances. Where a choice of designs will accomplish the projected mission, the more manpower-cost-effective may be selected. Manpower needs are but one of many criteria which a weapon system must satisfy, and savings must be considered in relation to the total system requirement.

ACCELERATED GROWTH OF R&D BUDGET

Question: Between 1980 and 1985, the RDT&E budget had average annual real growth of 12.3 percent, while procurement increased by 14.9 percent.

However, the 1986 budget seems to reflect a change in DoD

priorities. Procurement has only a 4.3 percent real increase over 1985, while R&D has an 18.3 percent real increase.

Percent Real Growth
(CBO Economic Assumptions)
Average Annual Percent

	<u>1980-85</u>	<u>1985-86</u>
RD&E	12.3	18.3
Procurement	14.9	4.3
DoD Total	8.8	5.6

Within R&D the largest real increase in 1986 is for Advanced Technology Development, an increase of 87 percent. During the previous five years, Advanced Technology Development increased by only 28 percent. Advanced Technology Development explores alternative designs before development of specific hardware.

Does this large real increase of funding of R&D, with its concentration on Advanced Technology Development, signal that, within a few years, we will see many new weapons systems enter full-scale development and later create a bow wave of procurement funding requirements?

Answer: The procurement and deployment of future weapons systems will continue to be determined by the nature of the Soviet threat. The progress of arms control negotiations and the capabilities of new Soviet systems will have a great impact upon our choice of future systems.

As far as cost is concerned, we expect that some of the cost of new systems entering our forces will be partially offset as older, obsolete systems are retired. In addition, many of the projects planned will improve the capabilities and reduce the cost of current systems. For example, research in composite materials will continue to increase speed and payload in aircraft and missile systems by reducing weight and fuel costs.

Advanced Technology Development explores alternative solutions to military problems before the development of specific hardware. Factors beyond our control determine what systems will need to be deployed. What we cannot afford is to be caught in a situation where a required system is unavailable because our technology base program was neglected.

Question: How do you contend with the argument that the very high R&D increases in FY 1986 will result in the funding of marginal research, with resulting waste, duplication, and overlap?

Answer: The level of funding requested for R&D in FY 1986 is the amount required to sustain the Administration's four-year effort to strengthen national security. The level of R&D funding has been thoroughly reviewed by the Department and we feel confident that the FY 1986 funding will achieve that objective.

SUBCOMMITTEE RECESS

Senator STEVENS. We will stand in recess until the continuation of the hearing with outside witness which will be 10 a.m. tomorrow.

Thank you very much.

Dr. WADE. Thank you, Mr. Chairman.

[Whereupon, at 11:45 a.m, Tuesday, March 26, the subcommittee was recessed to reconvene at 10 a.m., Wednesday, March 27, 1985.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1986

TUESDAY, JUNE 25, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Kasten, Rudman, Cochran, Proxmire, Hollings, Johnston, Byrd, and Sasser.

DEPARTMENT OF DEFENSE

SECRETARY OF DEFENSE

STATEMENT OF THE HONORABLE CASPAR W. WEINBERGER, SECRETARY
OF DEFENSE

FISCAL YEAR 1986 BUDGET REVIEW

REVISED DEFENSE BUDGET

Senator STEVENS. The subcommittee will come to order.

Again this year we have asked the Secretary of Defense and the Chairman of the Joint Chiefs of Staff to appear before the subcommittee near the close of our budget hearings rather than at the beginning. In this way we hope to receive a useful update of the defense budget situation.

We also will give you a chance to express your points of view and the various options that might be available to us in view of the developments that have taken place since your first appearance here in the Congress this year.

A great deal has happened since the President's budget was submitted last February and so a June perspective on defense funding will be particularly valuable to this committee in its deliberations on the fiscal year 1986 defense spending issues.

The original budget submission sought \$322.2 billion for the national defense function. That was a real growth of nearly 6 percent.

The Senate subsequently passed a budget resolution setting defense funding at \$302.5 billion, or zero real growth.

The House came in with a budget resolution ceiling of \$292.6 billion for defense, amounting to a real reduction of about 3.8 percent.

Meanwhile the Senate and House Armed Services Committees are moving on separate authorization bills reflecting those different levels and imposing widely varying program reductions.

We want to discuss all these developments today including the \$4 billion in savings that the Department suggested based on inflationary adjustments and program savings.

As I said, we certainly welcome you here.

We have been given notice that a ranking member, Senator Stennis, is testifying in another committee. We do hope that he will be able to join us while the hearing is going on here this morning.

We want you to know that we will value your guidance to us as this will be a difficult year, I think, for this subcommittee.

Senator Proxmire, do you have any comments?

Senator PROXMIRE. No, Mr. Chairman, thank you.

Senator STEVENS. Senator Rudman.

Senator RUDMAN. No. Thank you, Mr. Chairman.

Senator STEVENS. We welcome you. We look forward to hearing your statements.

We have your statements which we will print in full in the record. We hope you will proceed to give us your guidance this morning.

BUDGET ADJUSTMENTS

Secretary WEINBERGER. Thank you very much, Mr. Chairman and members of the committee.

We are honored to be here. I think the idea of holding the hearing at this stage of the budget process is a very wise one.

I will ask to have the statement submitted in full for the record. I will paraphrase it and mainly call your attention to some of the matters we think should be highlighted which we have put on the charts.

Mr. Chairman, you have already run through pretty well the first chart showing the reductions that have been made. There are slight variations between the figures you gave for the national defense function and the ones we have for the DOD budget. In the budget resolution action the Senate reduced the DOD budget about \$19.7 billion and the House about \$29.6 billion for fiscal year 1986.

When we submitted the 1986 budget in February, it represented a 5.9-percent real increase over 1985. That carried out my responsibility to report to the American people and the Congress the amounts that we felt then and still feel are necessary to provide for the Nation's defense.

It supported the force levels and the programs we thought were essential, given the state of the world in which we live. The President and I still believe that that 5.9-percent real increase in defense funding is necessary to meet those requirements.

ADMINISTRATION ADJUSTMENT TO BUDGET CHANGES

When the President became convinced that the request would not be voted by the Congress, he endorsed the 3-percent real growth compromise.

When Congress made it clear it was not going to provide even that reduced level, he reluctantly agreed to a funding level that provided zero real growth in 1986, with a clear statement about the prospect of a supplemental in the event such action became neces-

sary, and also with the agreement that real increases will be necessary in the next 2 fiscal years.

The conference action on that resolution, as you know, is incomplete at this date, but major reductions have been made and we will be complying, of course, with the amounts that are actually voted.

I don't think it would be fair to you or would carry out my responsibilities if we reported that these reductions can be made without any risk and without any harm to the needs of the Nation's security in this country.

I think it is significant that during all of this debate, all of this time and all these deliberations our defense requirements haven't diminished, and the reasons for rebuilding and maintaining defense strength have not diminished.

We do have to continue to balance improvement and readiness and sustainability of both conventional and strategic forces. We have to maintain and enhance the qualitative edge we traditionally have possessed by expanding the Navy to 600 ships, increasing tactical aircraft, sustaining the base of the ground force modernization programs and enhancing our investment in strategic military capabilities.

MODERNIZATION OF TRIAD

As I said, we had the unhappy task when we took office in 1981 of having to rebuild, restore, and modernize the entire triad of strategic forces all at one time. We are doing that. That will never take more than 13 percent of the budget, but even 1 year of no growth makes a very substantial reduction in the momentum of all of these things and also in the other very high priority that the President has, the research program on his strategic defense initiative.

EFFECT OF ZERO GROWTH BUDGET ON ALLIES

The zero growth budget will cause other problems that will undermine to a considerable extent the efforts we have made with NATO. Our allies have increased their financial commitments. The Japanese budgets are slowly increasing, and all these efforts I think will have to be made with renewed vigor against the background of our own reductions.

Our apparent lack of resolve will not be overlooked by the Soviet Union. Even though they face economic dilemmas more critical than ours by far, they are not contemplating a freeze or slowing of the momentum in their current and future modernization.

This chart shows the production rates of various weapon systems for NATO and the Warsaw Pact forces during the 10-year period, from 1975 to 1984. As you can see, they are running 25,000 tanks to our 10,900. That is all of NATO.

ARMORED VEHICLE PRODUCTION

We built in the United States about 6,300 tanks while the Soviets were building 22,000. It was not until the very end of that period, the last 3 years, that we started building our new tank, the one we know is superior to the Soviets'.

On the armored vehicles, the margin is a little worse, 46,000 Soviet to 6,700 of ours during this 10-year period. Field artillery, mortars, rocket launchers, tactical combat and interceptor aircraft show similar gaps.

Only in major surface warships did we have any kind of superiority during that 10-year period, and the Soviets were adding 90 major surface warships to a very large base that was already there.

The real problem here is that we have tried this business of slowing down unilaterally hoping that, either because of their economic problems, or because we set a good example, the Soviets would follow suit.

Unfortunately, there is no indication that that ever happened in the 1970's and there is not the slightest suggestion that it will happen now.

SOVIET DEVELOPMENT OF STRATEGIC NUCLEAR ARMS SYSTEMS

One of the charts that illustrates this is a rather busy complex one, but it shows the development of the strategic nuclear arms systems in the Soviet Union and the United States. From 1962 to 1972 we installed a great deal of our own strategic nuclear triad, mostly in the early part of that decade.

The Soviets did the same, but they didn't stop as we did in the period 1972 to 1979. They kept going with all of these new generations, new types—new types of submarine and Backfire planes—and they continued that right on through to the present time. We started to get the *Ohio* class submarine in 1981, are starting to deploy the ALCM's and finally have permission to deploy 40 of the MX's. The first B-1 bomber will be delivered next week.

So that we are finally now doing what we should have done during that earlier period of time. It means that we have a very substantial way to go. It means when we slow down, as we will this year, we have a very serious set of problems.

I want to show you, Mr. Chairman and members of the committee, what I consider the most critical chart we have. This is one that shows what would have happened if we had only had a modest 2 percent real growth increase on a steady basis since 1965. We would have been ahead of where we are now.

What we did, as you know, is go up very sharply during the Vietnam war. It was not an increase in our basic program even though it added to our military spending. Then we went down, went into the long period I described, a 20-percent decline in military spending in real terms during that decade of the 1970's.

It was not until then that we started up. When we did, we didn't get anywhere near what we would have had if we had had this 2 percent growth all along on a sustained basis.

This illustrates the freeze that will be imposed this year when the conference committee has finished its work. The broken line shows the budget level that will result if the 3 percent provided in the budget resolution is adopted in each of the next 2 years.

When you go into one of these unilateral disarmament phases, or you allow considerations other than the Nation's security to determine the amount, then you do have a very serious problem with

recovery from the kind of decline that we suffered during that period.

I would commend that chart to you and hope very much that the lessons of it will be followed in the years 1987 and 1988.

U.S. ACCOMPLISHMENTS SINCE 1981

We have had very real accomplishments in the period since 1981. We have had major real growth in budget authority. The Congress has been very generous in appropriating that, very generous in treating the salaries for the troops. We have had a restoration to a very considerable extent that will ensure very much our future security.

As you have seen, with the problems that we have had and these various provisions that have been made as we have gone down each year to try to accommodate various economic considerations, we have made major reductions. They are illustrated on this chart on administration recommendations of budget reductions.

The significant accomplishments should not be overlooked. We have, I think, a stronger, better equipped military force than we have had in over 20 years.

We have a much more modern strategic force and much better command and control systems and, even more important, a great deal in the pipeline that will produce even greater recovery in the years ahead. Things have already been authorized, like three carriers now on the way, that will add to the technological edge we still maintain, and I hope we can continue to maintain by careful management of technology transfers.

We have revised our goals downward as various provisions have come in. We have kept in mind the need for this recovery. We have to remind everyone that the external conditions that drive the defense budget have not improved, but have in fact worsened.

We see no similar tendency to allow economic conditions to slow down the growth of Soviet military strength and we, therefore, do not have very many options in this field if we want to maintain deterrence, as we have to do.

When the specific budget reductions are known this year, they will ultimately result, we know, in much lower levels than we think necessary. Indeed, both the Senate and House have marked up hundreds of programs in their authorization actions to date that require reductions.

There is disagreement between the House and Senate, and I won't go into those now because we don't have final action. Both the House and Senate Armed Services Committees have significantly reduced the requested personnel levels, and improvements in the support structure manning will be delayed.

MAINTENANCE BACKLOG

Much of the maintenance backlog we were reducing will have to continue. There will be a number of problems with the operating accounts and a number of reductions in the strategic programs.

CUTS IN SDI FUNDS

I think the SDI cuts, which again are not final, will hurt the quality and pace of the research that is necessary to produce that. Reductions have been made in the F-16 and F-15, Navy P-3C and E-6A Aircraft Program as well as the airlift programs. Research and development programs have been severely reduced.

PERSONNEL PAY COSTS

We have also had differences with respect to the pay increases and the troops' need to keep pace with the cost of living—which fortunately is a far lower increase than in previous years. We do need to have the military personnel appropriations, because these are must pay accounts and any delays or reductions can only adversely affect the morale of the troops.

INFLATION ADJUSTMENTS

I should like to make one point now about the so-called \$4 billion item, which seems to have caused so much noise and excitement, though it surprises us that it did.

We were asked by staff members of the Senate Armed Services Committee if we would get our regular inflation adjustments in early because they were marking up and they wanted to use that to reduce the harm done to the actual program.

We certainly agreed and we provided that a little earlier than we normally do. It turned out to be \$4 billion. It is \$4 billion because that was the amount of additional inflation savings. We used, as we have to—as all Government does—the OMB inflation figures. They turned out to be a little high and they produced those savings when we got our estimate of what actual inflation would be at the end of the fiscal year in October.

We still don't know whether that is going to be the amount or not, but this was the amount we calculated last month when we gave it to the Senate committee so that they could use it in their markup of our bill.

INFLATION SAVINGS

One should not be surprised at anything in Washington after all these years, but I have to confess I was surprised at the adverse reaction to that inflation saving. We thought it was quite an accomplishment, not of the Department of Defense, but of the administration, in making reductions in inflation that brought us out below the projections.

We had in mind the period in the 1970's when inflation was estimated at 7 percent and came in at 14 percent and, therefore, produced a lot less defense for the money.

We got a lot more defense for the money, and we reported it to the Congress. It was not the first year we had done it. It was the fourth year we had done it. We have always kept Congress fully apprised of this.

On this chart, these are the additional adjustments we have made since the President submitted his March 1981 plan. As you

can see, reductions have been made in each year, very substantial reductions as we got further out.

A lot of those reductions, the last line, were due to the fact that inflation has been reduced so substantially during these 4 years, well under the normal OMB estimates that we have been given and are required to use.

PAY ADJUSTMENTS

We did make some pay adjustments. We also cut some programs as evidenced by the \$26 billion in programs, \$6 billion in pay adjustments, \$16 billion in inflation savings over the period 1982 to 1985.

The inflation adjustments that have been submitted since March 1981 are shown here. We made a lot of adjustments before we even submitted subsequent budgets. These amounted to about \$33 billion.

We reprogrammed, with the approval of Congress, this amount of \$13 billion. Certain things were costing less, so we took that savings and applied it to other programs; \$7 billion didn't have to be used and went back to the Treasury.

Congressional cuts for repricing and contract savings during that period amounted to \$8 billion. That is the \$61 billion that is the result of lower inflation since the March 1981 plan.

ACQUISITION PROGRAMS

Another thing with which we are very pleased is the fact that cost growth on major acquisition programs has been reduced to practically zero, to 1 percent, during the 1983-84 period, and that is reflected on this chart.

Going back to the \$4 billion and some of the reaction in the other body, a press release was issued to the effect that this was a terrible thing we had done. It said that we were systematically overestimating inflation, that we were squirreling away money, as it was phrased, and hiding funds under rocks.

Since we reported all these matters to the Congress, since they were fully disclosed and used for the purposes approved by the Congress or returned to the Treasury, we felt this did not accurately reflect what actually had been the case.

We, as a matter of fact, remain very proud of the fact that we have been able to get more defense for less money than was originally estimated, by a very considerable amount, and that some of that has gone back to the Treasury.

A lot of it has been used—quite properly with the full consent and approval of the Congress—for other programs, and that is again, I think, a record in which we should take very considerable pride.

Certainly it doesn't amount to any kind of attempt to conceal any funds.

COST GROWTH REDUCTION IN MAJOR WEAPONS SYSTEMS

The chart before you on the reduction in the cost growth in major weapon systems shows some of the evidence that we are

proud to present of the management and acquisition improvements that have been made. There are 84 major weapon systems.

We have made very substantial improvements in controlling cost growth. After adjustments for inflation and quantity increases, technological improvements, all those things, the annual growth rate dropped from a high of 8 percent in 1981 to a low of less than 1 percent.

That, I think, indicates a very much improved management system for these major systems. We see it in the B-1 that is coming in on time and under budget. We see it in the construction of the carriers. We see it in a number of other ways.

COMPETITION

We have been told that the real key to everything is that we have to have increased competition. We have always favored it. We have appointed now about 600 competition advocates to expand the use of competition, try to get it wherever we can.

Competition in new ship programs is about 90 percent today. Since 1980 the number of annual competitive contracts has increased by 37 percent, and that is about 6 million contracts.

In fiscal year 1984, you had 43 percent of all procurement dollars that were competitive contracts and 29 percent awarded as follow-on dollars to previously competed contracts. Once that system is awarded, when you need additional quantities on that previously awarded contract, you don't ordinarily get competition.

So, you have somewhere in excess of 70 percent of the Department's procurement now basically competitive or stemming from competitive awards. That I agree is an important factor—a very vital factor.

MULTIYEAR PROCUREMENT PROGRAMS

We have always made the greatest use we are permitted of multiyear procurement programs. You see here on this chart, starting in 1982 when Congress gave us permission to do that. We asked for eight programs in that year, and they were all approved. These savings over the whole period of time, 1982 to 1986, are estimated now at about \$4.5 billion.

We could have had \$6.3 billion in savings, but the balance of the programs requested for multiyear contracts was denied. So, there have been substantial savings by that means, and I think it has more than fulfilled the hopes that the Congress had when they authorized us to enter into it.

ECONOMIC PRODUCTION RATES

We have tried to use economic production rates. These were set for 18 very high priority programs. We think we have avoided over \$2.5 billion in additional cost. The systems in which we have used it include the AIM-9M missile, the F-14A and F-16. In fiscal year 1986 we have asked for nine additional systems to be funded this way, and we think this will save about \$100 million if these are all approved.

We have made a very large number of efforts in the Department to try to secure the maximum amount of savings that we can. We are aware that in any organization as large as the Defense Department there are bound to be problems at all times.

So, when I first came in, one of my first actions paralleled the action of President Reagan when he was first elected Governor of California, and that was to order the largest audit that had ever been conducted of the management of the Department.

AUDITS

The results are tabulated here on this chart. We have had 18,000 audit reports issued, with potential savings of about \$2.7 billion. They have closed 15,000 cases. We have had to refer over 5,500 cases for prosecution or administrative action. You see the fines or penalties that have been recovered already.

DCAA is also doing additional audits, 61,000. They have had \$7.4 billion in savings and cost avoidance from reports that are already closed. This is an ongoing thing.

Then our own inspection organizations, the inspectors general, have issued some 10,000 audit reports, and savings and cost avoidance here are almost \$2 billion.

DEFENSE HOTLINE

Of course, the other thing that I did within a couple of weeks after arriving was to install the defense hotline. On either an anonymous or overt basis we take calls and letters and follow up all of them. About 28 percent of them turn out to be quite useful and valuable suggestions, but we follow up them all. There have been in excess of 7,800 calls and letters.

We began looking for any problems as soon as we got there. We found a great many. The ones that have been found are the ones that have been given a very great deal of publicity, even though they have been a very small part of the total volume of procurement activity.

Some of the ones you have heard most about are shown on this chart. I thought it was useful for you to know who identified the overcharge, who found it, and what was done.

As you will see in the highly publicized cases—which are the subject of endless cartoons and all manner of humor and reports and discussions and hearings—this is what has happened.

We have not paid the prices shown. If they were paid by some initial mistake, then a refund was obtained or the sums will be withheld from future payments and are being withheld. In none of these very highly publicized cases—hammers, diodes, wrenches, plastic caps, toilet seats, and pliers—none of these have been paid and they will not be paid.

People who find them are rewarded. People who through carelessness or laziness or negligence don't find them are either not with us any more or are disciplined.

We feel as strongly as anybody, far more strongly, about these things. I think it is quite likely you will read about more of these as our audits continue. It is quite likely you will not if we do not

pay for them or action was taken, but the effect will be the same in all of these. It is important to do.

We certainly aren't going to stop it because we have had some adverse publicity, but we are engaged in running a very large enterprise, and we think it is extremely important that each one of these be pursued and appropriate action taken whenever we find anything wrong.

Again, what we are reading about is quite a small percentage. You have not read of something like 380,000 pairs of pliers that were bought for something like \$7. That is not news. We don't make any complaints about, but we do think it is important to put this in perspective.

It is also important to realize the size of the activities of the Department. I don't know how many people know, but we sign 52,000 contracts every single day of the year. It is indeed a very large enterprise. There are always going to be some things that will not be handled absolutely perfectly.

The point is that our investigations and audits are finding those small amounts, small numbers as they are, and taking appropriate action—not paying, stopping the procurement, getting the refunds and going elsewhere, increasing competition, all of these things.

These are matters which, of course, affect the Nation's security because they affect the public perception of what we are doing. That is why I have spent perhaps more time on it than the dollar value would seem to warrant in matters of this kind, but believe me, it is a matter of deep concern to everybody in the Department. We certainly continue to work on it all the time and with, I think very good results.

I would simply conclude by saying that I think it is essential that someone—and given my own responsibilities I don't know who else that can be but me—is required to report to you and the Congress the amounts we think necessary and the state of the world in which we live and what that means for national security and national defense.

ADVANCES AND IMPROVEMENTS BY DOD

We have made very great strides. I know that General Vessey from his vast military experience will be able to tell you in more detail and with far more expertise than I could precisely the improvements and the advances that have been made.

We attribute these entirely to the foresight of the President and the generosity of the Congress in voting these appropriations. We have to emphasize that, as hard and difficult and expensive and unpopular as the task is, it can't be finished by our determination that the deficit is too high or that it is unattractive to keep on spending so much for the Nation's security.

It can only be finished when we are satisfied that the world in which we live is one of greatly reduced threats by reason of greatly improved conduct of our principal opponent. That certainly has not happened yet.

So, it is essential that someone, I think, advise you of the amounts that appear to be necessary from our perspective. Obvi-

ously, the response you make depends on a large number of factors and your own perception of the priorities.

If the priority of a particular year is to get the budget deficit down, we will, obviously, accept that and do our very best to make that cut as unharmed as possible to the Nation's security. In doing that we will, of course, use every kind of savings we can find, including savings that result from estimates of inflation that fortunately prove to be too high. We will continue to do that.

We have continually heard from time to time that the cuts we propose aren't all real cuts, that real cuts are the kind that hurt.

Mr. Chairman, you have to know that if required to do so I am always going to propose cuts that will hurt us the least, because it is not any individual that is involved—it is not an individual or department that is being hurt more or less—it is the security of the country.

Someone has that responsibility to advise you of the amounts that seem to be necessary for the Nation's security. We accept that responsibility, and we will certainly continue to try to exercise it.

We will also try to make reductions wherever we can in ways that least harm the necessary rebuilding. When you have had a whole decade in which we went down so drastically, and we can see how easy it would have been to be ahead of where we are now if we had only kept a modest 2 percent growth each year. Then you do come to the conclusion, as we have, that we have to be very clear and very specific in reporting defense needs. We are not seeking any popular response by advising you against our conscience that it is perfectly all right to go down to zero 1 year and maybe 2 or 3 years because the deficit is too high.

We have to look at other things and certainly Soviet behavior, Soviet military power and Soviet capabilities have to drive our reports to you.

Those are the principal points we wanted to make, and it is, I think, vital that we have them before us as we begin this very important discussion.

General Vessey has a statement which he would now like to make, with your permission.

[The statement of Secretary Weinberger follows:]

PREPARED STATEMENT OF HON. CASPAR W. WEINBERGER
SECRETARY OF DEFENSE

Introduction

Mr. Chairman and members of the committee:

The FY 1986 defense budget we presented in February called for \$313.7 billion in budget authority and represented a 5.9 percent increase over FY 1985. That request included those programs and force levels I believe necessary to meet our current national security requirements and to sustain the progress we have made in our program to achieve our long-term goals.

In spite of actions by the Congress thus far, our priorities remain quite clear. We must maintain the continuation of balanced improvements in the readiness and sustainability of our conventional and strategic forces. This includes more realistic mission training opportunities for military personnel so that we can be confident that our people will be capable of making maximum use of the increasingly complex weapons and equipment at their disposal. Also, it is imperative that we continue the high level of annual procurement of replenishment spare parts to support our peacetime requirements and improve the operational levels of our ships, aircraft, and combat vehicles.

We do not seek a major new expansion of our active force structure. Rather, we need to maintain and enhance the qualitative edge U.S. forces have traditionally possessed. This includes ongoing force structure improvements to continue the expansion of the Navy to 600 ships, creation of two new light divisions within the Army - with no increases in end strength - and modest increases in tactical aircraft. We also should sustain the pace of our ground force modernization programs and enhance investment in strategic mobility capabilities. Furthermore, the commitment to increased reliance on the reserve components, manifested by a 7 percent increase in Selected Reserve end strength and additional emphasis on more realistic and intensive training of Guard and Reserve units, is essential.

The success of our long-term program to maintain a credible deterrent in the future so that we may press ahead with verifiable arms reduction negotiations rests on our efforts to modernize all three legs of the strategic triad. Continued modernization of our bomber forces includes the installation of cruise missiles on B-52s, continued production of the B-1B bomber, and development of the Advanced Technology Bomber. The three TRIDENT submarines already at sea continue to meet or exceed all performance criteria and dramatically enhance the sea leg of our triad. Continued development of the TRIDENT II (D-5) missile will provide our ballistic missile submarines with the ability to place hardened Soviet assets at risk.

The MX/PEACEKEEPER missile remains the essential element of the President's strategic modernization program. The MX missile is performing at or above expectations in all areas and is within schedule and budgeted cost. It is important that we complete this critically needed program. We have no other near-term response to the Soviet strategic offensive challenge and, clearly, the success of this program has played a vital role in convincing the Soviets to return to the arms reduction negotiating table.

The cornerstone of our long-term program to reduce the threat of nuclear war is the President's Strategic Defense Initiative (SDI). This research effort represents the first important step toward a new and better way to deter war, strengthen stability, and ensure peace by moving away from exclusive dependence on nuclear retaliation. The technologies we are exploring hold forth the promise to provide options for effectively defending against ballistic missile attacks -- whether directed at the United States or our allies.

Current Status of the FY 1986 Budget

It is my responsibility to report to the American people and the Congress the amounts that we think are necessary to provide for this nation's defense. In that regard, President Reagan and I still believe that a 5.9 percent real increase in defense funding for FY 1986 is what America's security requires. However, when the President became convinced that our request would not be voted by the Congress, he endorsed a 3 percent real-growth compromise. When the Congress made it clear that it was not going to provide even this reduced level of funding for defense, he reluctantly agreed to a funding level providing zero real growth in FY 1986 with very clear statements as to what would be required in subsequent years, as well as the prospect of a supplemental, in the event such action became necessary.

(Chart 1: Current Status of DoD Budget)

Conference Action on the First Concurrent Resolution for the National Defense Function (050) is incomplete. The House approved a nominal freeze for DoD budget authority in FY 1986 of \$284.1 billion. This level provides no allowance for pay and price increases in FY 1986 and results in 3.8 percent negative real growth. The Senate approved \$294.0 billion for DoD budget authority in FY 1986. This level provides the same funding level enacted for FY 1985 plus an allowance for inflation. Both the House and Senate provide for 2.4 percent and 2.9 percent real growth in FY 1987 and FY 1988, respectively. The cumulative reduction to the President's request for FY 1986-88 is \$156.3 billion by the House and \$124.3 billion by the Senate.

Impact on National Defense of Zero Growth

Let no one misunderstand. This Administration has agreed very reluctantly to the zero-growth figure, and only as part of an overall budget compromise with the Congress. In doing so, however, I sincerely hope that we have not compromised more than the budget, since these reductions are not without cost or risk. During these deliberations on the budget, America's defense requirements have not diminished. If anything, they have increased. Therefore, the reasons for rebuilding and maintaining our defense strength did not change.

No one seriously argues that budgets which provide no real growth in our capabilities can be expected to meet our national security requirements. Quite clearly they do not. Even one year of no growth reduces the momentum we had built up to achieve our national security goals. Moreover, a continuation of this trend will undermine the improvements we have already made, and will delay indefinitely, with added cost, the achievement of our long-term goals.

Zero growth will undercut our effort to lead NATO collectively to a stronger conventional defense. For years, many have urged NATO members to increase their defense budgets. Our

NATO allies have increased their financial commitment to the modernization and expansion of conventional defenses. Likewise, Japanese defense budgets are slowly increasing as Japan prepares to implement its policy of defending its territory, air space, and sea lanes out to 1,000 miles. By strengthening conventional forces, the United States and our allies have sought to restore a balanced deterrent. However, just as our allies are increasing their commitment, we will be seen as reducing ours.

This apparent lack of resolve on our part will not be overlooked by the Soviet Union. Even though they face economic dilemmas more critical than ours, the Soviets are not contemplating a freeze or a slowing of the momentum in their current and future defense modernization. Nor have they curbed their appetite for expansionism or influence over world events.

(Chart 2 : Production of Selected Weapons for NATO and Warsaw Pact Forces (1975-1984))

Over the past ten years, the Soviet Union has fielded an additional seven divisions, and out-produced us in ground force weapon systems by factors ranging between three and fifteen. It has produced tactical aircraft at twice our rate and increased its fleet of nuclear attack submarines by 50 percent and of large surface combatants (cruiser size or better) by one-third.

(Chart 3 : Introduction of Strategic Systems by Year)

Over that same period, it has quadrupled its arsenal of ICBM warheads and deployed over 400 SS-20 intermediate-range nuclear missiles.

Once again, there are no reliable indicators that the Soviet arms buildup will slow or be "frozen" if we slow our own defense efforts. To the contrary, the evidence of the 1970's -- when the United States did limit its defense effort -- suggests quite the opposite.

There are other basic misconceptions concerning a freeze of our defense program. Contrary to the opinions of our critics, zero growth will not make defense cheaper -- it will just increase costs. Stretching out procurement of needed items doesn't save money: it just postpones the expenditure and adds to the cost. Deep cuts also jeopardize key acquisition management reforms. These reductions will mark a significant step back in our efforts to upgrade our defense capability and provide for the necessary investment in our long-term security.

Accomplishments in our Defense Program

(Chart 4 : Real Growth in BA, FY 1964 to FY 1990)

There are differing opinions about what the optimum growth rate for defense should have been following the Vietnam era. Nevertheless, by the end of the decade it was evident to both the Congress and the American people that the course taken throughout the 1970's permitted our military forces and capabilities to deteriorate to unacceptable levels. There was no doubt that in order to rebuild our military strength, we had to invest increasingly greater levels of resources for defense.

In the early 1980's, this Administration made a commitment, endorsed by the American people, to restore our defenses so as to ensure our future security. The Congress became a full partner in this effort and supported the necessary resources to begin

this long-term effort. However, in recent years this commitment has waned and our requests have been reduced more and more. The result has been that we have delayed some of our goals and our level of spending is still below that which would have been provided by a commitment in 1964 to an even modest 2 percent real growth rate.

This is not to say that we have not made significant accomplishments with the resources provided. The American people and the Congress can take great pride in the progress our military forces have made since 1981 to improve our national defense capabilities. Today, we have a stronger, prouder, and better equipped military force than we have had in over 20 years. We have more modern strategic forces and command and control systems able to provide a more stable and credible deterrent. Our modern, well-equipped ground and tactical air forces have the technological edge needed to restore the credibility of our deterrent strength in NATO. Our maritime forces are more capable of protecting our interests worldwide and our strategic mobility forces can better support our increasing global requirements.

Manning the Force

The accomplishments in the personnel area have been substantial and improvements self-evident. Since 1981, the active force has grown by 71,000 and the reserve force has increased by 178,000.

Recruiting goals have been achieved in each of the last four years and retention and reenlistment rates of first-term and career personnel have improved dramatically over the last four years. First-term reenlistments were 48.6 percent in FY 1984 compared to only 38.2 percent in FY 1980. During the same timeframe, career reenlistments increased from 70.2 percent to 79 percent.

The quality of our force has improved significantly as well. In FY 1984, the number of high school graduates attained were at 93.5 percent compared to the 67.7 percent level in FY 1980.

Clearly, this Administration has placed a proper priority on the well-being of our military members who serve and protect this country. Bonuses, education assistance, better medical benefits, housing and quarters allowances, and other significant compensation benefits and initiatives also have played a significant part in the success of rebuilding our manpower force. More fair and competitive levels of pay have been achieved through annual pay raises granted to our military personnel and this emphasis has been a major factor in accomplishing the strength buildup with quality improvements. However, recent pay caps and delayed raises have placed us 8.3 percent behind private sector pay increases as measured by the Employment Cost Index. A continuation of these policies will seriously jeopardize our successes in attracting high quality personnel.

Supporting The Force

Improvements to the support and readiness of the force structure has been a primary objective of our defense program over the last four years. We have allocated additional funding to the availability of spare parts, to depot maintenance activities, to serious shortfalls in ammunition levels, and to the increased operating tempo of our ships and aircraft.

Air Force tactical aircrews now fly 19 hours a month, up from 16 hours in 1980, while Navy aircrews experience nearly 24 hours a month of flying time. Delivery of much-needed spare parts for Army helicopters has also produced an increase in Army flying hours. As a result, there has been an improvement in the percentage of aircraft in the inventory that are now considered mission capable.

Another area of emphasis has been logistics support, which is crucial to the day-to-day operations of our forces. Increased efforts have been placed on our ability to provide the supplies required in support of our forces; the transportation of material and equipment to the forces that need them on a timely basis; the engineering, technical, and administrative support necessary for operational success; and for sea and airlift operations.

The significant increases in ammunition funding since FY 1982 have restored levels of ammunition inventory to levels sufficient to meet peacetime consumption (readiness training needs) requirements and combat operations. When the ammunition procured through FY 1985 is delivered to the field, this Administration will have increased stockage levels and other measures of sustainability by as much as 65 percent.

Modernizing The Force

We have developed and begun to implement a plan for maintaining deterrence by modernizing our Nation's aging forces, both conventional and strategic. These efforts have produced:

- an accelerated pace of modernization for our strategic nuclear forces and the associated command and control,
- an expansion of the size and striking power of our maritime forces,
- an expansion of our mobility capabilities,
- an accelerated pace of modernization of our land and tactical air forces, and
- an increased modernization of our reserve forces.

We have accomplished major improvements in each component of our nuclear force structure -- the bomber force, the fleet ballistic missile force, and land-based intercontinental ballistic missiles -- to redress obsolescence and support our nuclear policy.

Fifty-two B-1B bombers will have been procured through FY 1985, and all 100 aircraft will be operational by the end of the decade. We have deployed Air-Launched Cruise Missiles (ALCM) on 90 B-52 aircraft, and an advanced cruise missile is being developed. Finally, development continues on the Advanced Technology Bomber (ATB).

Three additional TRIDENT submarines have been ordered since FY 1981, bringing the total number on contract to 12, and we are continuing to build them at a rate of one per year. Each is armed with 24 TRIDENT I (C-4) long range missiles and the TRIDENT II (D-5) missile is being developed to be effective against hardened Soviet targets.

The modernization program for the strategic missile force was based on the President's commission on strategic forces to deploy

the PEACEKEEPER missile and to develop and deploy a small, mobile intercontinental ballistic missile. Seven successful flight tests of PEACEKEEPER have been completed and initial production was authorized in FY 1984. Several initiatives also have been put in place to improve our strategic command, control and communications.

From FY 1982 through FY 1985, we funded the construction of 15 more warships than the previous administration had planned. During this period, a total of 41 major nonstrategic warships were approved for construction, including two nuclear-powered aircraft carriers, and twelve CG-47 class cruisers. The three Iowa-class battleship reactivations have also been funded.

In addition, we have placed proper emphasis on modernizing and rebuilding conventional land and air capabilities by embarking on a broad program to improve the combat effectiveness of our tactical air forces with F-14, F-15, F-16, F/A-18 and AV-8B aircraft, as well as with improved air-to-air and air-to-ground weapons. The Army is rebuilding its land forces capability with improvements in firepower, tactical mobility, and survivability by investing in such weaponry as the M-1 tank, the Bradley Fighting Vehicle, and the Multiple Launch Rocket System.

We have reversed the historic practice of equipping National Guard and Reserve forces with outmoded and excess hardware. Selected Army National Guard units have received the M-1 tank and Bradley Fighting Vehicle; Army Reserve units are flying the UH-60A helicopter; a Naval Air Reserve squadron is training with new F/A-18's; and the Naval Reserve Surface Force is operating Perry class guided missile frigates.

Developing Tomorrow's Force

The technological superiority that we enjoy over the Soviets today is a direct result of the investments made in Research and Development and the priorities afforded the search for increased, advanced technologies by this Administration. Investment in basic research and proof of concepts that solve military problems has been, and will continue to be, the foundation of a strong defense.

We have made significant gains and improvements in computers and computer sciences, which form an integral part of almost all modern weapon systems. We have also made progress in the areas of medical research and development, manpower, personnel and training, atmospheric investigations and chemical munitions. Through such programs, human operator efficiency is maximized for any anticipated operational environment.

Major capability improvements have been made in materials, ballistics, conventional munitions, tank and automotive technologies, logistics support, and rocket, missile and space propulsion.

Most importantly, the President's Strategic Defense Initiative (SDI) was established to to examine the feasibility of a departure from sole dependence on nuclear retaliation toward more reliance on defensive systems. Research is being conducted in the five key technology areas necessary to provide a defense against nuclear missiles: (1) directed energy weapons; (2) kinetic energy weapons; (3) surveillance, acquisition, tracking, and kill assessment systems; (4) battle management and command, control, and communications systems; and (5) survivability, lethality, and support technologies. Many of these activities

are showing considerable progress and are exceeding expectations in many areas of technologies.

These improvements notwithstanding, recent and persistent budget reductions have caused our goals to be revised continuously. The result is that achievement of our long-term goals will be delayed and will undoubtedly be more costly. The reduced funding levels for FY 1986 will further erode our efforts.

Implementing the Budget Resolution Level

In order to implement the level of spending called for in the First Concurrent Resolution, we cannot take the easy way out by resorting to indiscriminate, across-the-board reductions. Major areas of the budget have to be off limits to reduction -- the readiness and sustainability accounts; the strategic modernization program; military construction projects; and pay for our men and women in uniform. Therefore, we obviously will be forced to make even more drastic cuts in those parts of the budget -- primarily research and development, and conventional modernization -- that remain. As painful as it might be, the only responsible way to carry out such drastic reductions would be either to reduce the general purpose force structure or to make wholesale terminations, deferrals, or stretchouts of the remaining modernization programs.

We do not know what specific program reductions ultimately will result from the budget resolution levels. However, to date the Senate and the House have marked hundreds of programs in their authorization actions, and there is disagreement between them on many of these items. Nevertheless, after reviewing these marks, we can see that many programs will be adversely affected.

The personnel levels we requested were necessary to enable us to meet the manning requirements of an expanded naval fleet, modest growth in tactical air forces, deployment of the Ground Launched Cruise Missile, and to maintain the necessary level of readiness and sustainability. Both the House and Senate Armed Services Committees have significantly reduced our request. Improvements in our support structure manning will be delayed if such actions are approved by the Congress.

The majority of the House and Senate cuts to our operating accounts have been made on the basis of pricing. However if we are unable to execute at the reduced prices, there will be significant program degradation. Fortunately, most programs that are related to our military capability and readiness were not reduced directly. But, they still could be affected by other "indirect" program reductions.

The House and Senate have made significant reductions in many of our strategic programs. The SDI cut was particularly large, although fortunately less in the Senate, and will represent a major setback in that program. The procurement production levels for the MX Peacekeeper missile have been reduced by both the House and the Senate, and the House cut the B-1B aircraft procurement and the R&D funding for the small ICBM. Together, these actions will have a severe impact on our ICBM modernization program and accomplishment of our national security objectives.

Major reductions have also been recommended in the F-16, F-15, and Navy's P-3C and E-6A aircraft, as well as airlift programs.

Research and development programs were also severely reduced. Several joint Service programs, e.g. JSTARS and JTIDS, were reduced with the direction that we develop a common program for all Services, while we are developing joint programs for many systems. Such restructuring at this juncture would delay introduction of many programs already well advanced, as well as cause costs to rise.

The House and Senate Authorization Bills prohibit obligations from exceeding the total dollars authorized for military basic pay and payments into the DoD Military Retirement Fund for FY 1986. The House Bill authorizes \$4 billion less and the Senate Bill authorizes \$1.8 billion less than the amounts requested in our FY 1986 budget. Both Bills direct a legislative proposal be submitted that would change the retirement system in such a way as to reduce the accrual charge by the amount of the limitation. The changes to be proposed can only be applied to new entrants after the date of enactment. This means that benefits for all active and reserve military personnel and those on the retired rolls at the date of enactment would be "grandfathered".

Military personnel appropriations are "must-pay" accounts. If the individuals are on-board, their pay and allowances must be paid. Should legislation not be enacted to reduce the retirement system as desired by Congress, we will be unable to meet our payroll obligations. We estimate military payroll funds would run out approximately September 3, 1986 if the House Bill prevails and about September 17, 1986 if the Senate Bill is enacted.

The direction to submit legislation revising the retirement system should be treated as any other legislative proposal and included as a contingent reduction only. Funds must be appropriated to the Department for military pay and allowances required by force levels and authorized allowances. Upon enactment of legislation revising the retirement system, amounts can then be removed from the military personnel appropriations. I appeal to this Committee to appropriate all funds related to the end strengths ultimately authorized by Congress.

Legislation which we have requested to facilitate base closures would provide much needed flexibility to deal with these reductions. However, the Congress has not been supportive in our efforts to obtain this legislation.

It is difficult to gauge the effects of all these delays, reductions, and terminations that will result from the program cuts being made. But there is no doubt that no matter how judiciously these cuts are made, there will be some adverse effect to our national security.

\$4 Billion Authorization Adjustments

Last month I recommended to the Congress, following requests by Senate Committee staff, that our regular inflation savings be recognized early so that we could meet the spending limits of the budget resolution and minimize the impact on national security.

Specifically, we recommended that Congress recognize savings of approximately \$4.0 billion resulting from management improvements, lower inflation, and the latest program execution status of the Department's budget for FY 1984 and FY 1985.

These savings could be used in the FY 1986 budget to minimize uneconomical buys; to avoid unnecessary cuts in areas such as spare parts and support equipment; and to finance essential elements of our compensation and quality of life programs.

When we presented this idea, we were met with more than a little skepticism. The press and the Congress (particularly the Senate) expressed strong criticism of our action, accusing us of poor timing and withholding information from the committees -- as if this were some one-time phenomenon. However, I should point out that the reaction was not all bad. Within days, the HAC subcommittee commended the Department for being so forthright in providing \$600 million in savings to finance a portion of the supplemental request. Subsequently, this subcommittee increased these savings to \$1.0 billion.

I repeat what I pointed out then, that this was not a new procedure as demonstrated by simultaneous action by the HAC and SAC actions cited above. Savings of this nature are usually identified in the normal course of consideration of the defense budget by the Congress, and reflected as legitimate financing adjustments in the Appropriation Bill. The Department has realized savings of this sort each year since 1981, and Congress has regularly used them in financing necessary programs. Also, DoD has been called upon each year to contribute to deficit reduction efforts. In May 1982, June 1983 and May 1984 DoD made sizeable reductions to its carefully structured force buildup and provided specific recommendations to the congressional committees to achieve these reductions.

**(Chart 5 : Administration Recommendations of Specific
Reductions to DoD Budget, 1982-85)**

- **May 9, 1982:** The President sent letters to the Chairman, Committee on Armed Services and to the Chairman, Subcommittee on Defense announcing a \$7.5 billion reduction in FY 1983 budget authority. These FY 1983 budget revisions were identified by account and provided to the Congress.
- **June 27, 1983:** The Director of OMB informed the Chairman, Senate Armed Service Committee, of the President's commitment to adjust the FY 1984 defense request by \$3.4 billion for the favorable effects of reduced oil prices and lower inflation. These savings were provided in appropriation account detail for markup deliberations and then submitted by the President to the Congress as an official budget amendment on September 15, 1983.
- **May 2, 1984:** The President sent letters to the Majority Leader of the Senate and to the Speaker of the House announcing an agreement with the Republican leadership on a balanced deficit reduction package. This agreement (Rose Garden) reduced DoD budget authority by \$56.8 billion and outlays by \$40.2 billion for the years FY 1985-87. On May 3, DoD released highlights of the FY 1985 budget revision to the Congress, and identified adjustments in some 190 appropriation accounts. This was done to assist the Congress in reaching the new funding level established for DoD.

In fact, the FY 1986 defense budget transmitted by the President in February contained significant savings. For

example, we recommended reprogramming actions financed by savings of \$800 million. Also, we absorbed \$204 million (GI Bill -- \$150 million and Aid to widows and orphans -- \$54 million) in new costs necessary to finance new congressional legislation for which no funds were provided in FY 1985.

These actions show that neither the concept nor the timing of the information provided to the Congress on May 14, 1985 was unique. There certainly was no intent on our part to mislead or embarrass the Congress by this action.

Congressman Aspin's Press Release on Inflation "Dividends"

However, I would like to point out that later in May there was an announcement by the Chairman of the House Armed Services Committee which, I feel, did mislead the Congress and the American people, and which attempts to embarrass this Administration. In that announcement, we were accused of "systematically" overestimating inflation in the defense budget, and "squirreling away" money for other uses. It was claimed that we had hidden these funds under four "rocks": unobligated/unexpended balances; lapsed balances; reprogramming; and defense contractor profits. The misleading part of this is, of course, that we did not hide anything and that these "rocks" are part of the normal budget process the Congress uses to authorize and appropriate defense funds. Furthermore, we are extremely proud of the inflation and other savings: it means more defense for less money.

For example, we have regularly reported these savings and used them to make adjustments to the DoD budget as part of the deficit reduction efforts.

(Chart 6 : Adjustments to March 1981 Plan -- Budget Authority)

When President Reagan announced his plan to strengthen the Nation's defense capabilities in March 1981, it was estimated that the budgets for the four years FY 1982-85 would require total funding of \$1,091.4 billion. The budgets enacted by the Congress for this four-year period totalled \$996.2 billion. The \$95.2 billion reduction from the plan reflects a combination of program reductions and military and civilian pay caps, but the largest factor pertains to lower inflation and better management amounting to \$61.7 billion.

The "savings" have been incorrectly referred to as inflation "dividends" or "windfalls." Indeed, there have been savings as a result of lower inflation. The best economic news we have had in a long time is that President Reagan's economic policies have reduced inflation more than anyone thought possible. It is interesting to note that previous administrations were attacked for underestimating inflation on one hand, and for failing to control it on the other. So now we control it, and as a result are able to make reductions, but are still attacked.

(Chart 7 : Summary of Lower Inflation and Better Management Adjustments to March 1981 Plan)

The savings resulting from lower inflation certainly have not been concealed from the Congress. Of the \$61.7 billion total, \$33.3 billion was deleted before the budgets were even submitted to the Congress. Since these amounts were never appropriated, there is no way they can be considered a "windfall".

In addition to adjustments to DoD requests for lower inflation before enactment, revised inflation estimates may affect the execution of DoD budgets for which congressional action has been completed. Savings realized from lower inflation after enactment often provide sources for reprogramings and transfers.

DoD has reapplied \$13.1 billion of savings from inflation and management improvements through congressionally approved reprogramming procedures. These procedures have been developed to provide a mechanism for DoD to respond to congressional direction as well as to accommodate unforeseen emergencies, priorities, and exigencies of program execution. Approved programs would have suffered extensively had not lower inflation given us resources for these reprogramings. But it is hardly reasonable to describe as a "windfall" programs that the Congress had approved and intended to fund, or which were financed by procedures which had the express approval of the Congress.

Also, delayed inflation savings probably account for some increase in balances lapsing within DoD. Lapses occur for a number of reasons, such as lower actual inflation rates than anticipated, favorable contract negotiations, or provisions to planned procurements. They can be considered savings or cost avoidance experienced during budget execution, but not "windfalls." However, they may be required to cover economic price adjustments, claims, or adjudicated change orders on existing contracts.

In addition to amounts either scrubbed by DoD prior to submission of the budget or later identified through a budget amendment or in a letter to the oversight committees, the Congress itself often makes adjustments for inflation. It is difficult to measure their adjustments precisely, because such repricing involves both programatic and non-programatic reductions which are inextricably linked to other adjustments. However, we estimate that of the \$41.6 billion reduction made by the Congress to our FY 1982-85 requests, \$8.2 billion came about as a result of lower than projected inflation.

Therefore, it is clear that the \$61.7 billion of savings will produce no windfall in terms of new programs added beyond those approved by the Congress. I believe the most striking aspect of this situation is that we have been able to secure a great deal more defense for less dollars and that the system in place provided an accounting for the disposition of the inflation savings.

Please bear in mind that in the four years before 1981, inflation was underestimated -- (some years from an estimate of 7 percent to an actual rate of or close to 14 percent) -- that meant less defense than planned.

Management and Acquisition Improvements

Overview

The issues that I have addressed here today are those that should form the basis for the debate over America's military requirements. The resources our nation allocates for its security should be based on the threats to that security, and the merits of the defense program we present should be discussed accordingly. However, the focus of the debate is often obscured by misconceptions about how we are managing our defense business. Too much of what the public reads or hears about the defense

budget are the prices we are alleged to pay for toilet seats and hammers.

(Chart 8 : Cost Growth for Major Weapon Systems - SARS)

It is a misconception, for example, that our weapons' costs have increased tremendously over the past few years as was reported recently. As reported by the Congressional Budget Office, historical selected reports on 84 of our major acquisition programs show that we have, in recent years, made substantial improvements in controlling cost growth. In base year dollars, i.e., dollars adjusted for cost increases caused by inflation and by ordering more and technological improvements, the annual growth rate has dropped from a high of 8 percent in 1981 to a low of less than 1 percent in 1984. This success by the Department in controlling cost growth reflects the significant savings which have been achieved from management actions, such as multiyear procurements, economic production rates, and increased competition.

A recent editorial in a major newspaper accused the Pentagon of "destroying competition among its contractors."

(Chart 9 : Increased Competition in DoD Procurement)

Let me set the record straight on competition. We have not in any way "destroyed" competition among defense contractors. In fact, we have achieved just the opposite. Since FY 1980, we have increased the number of annual competitive contracts by 37 percent to over 6 million contracts. In FY 1984 alone, competitive dollars awarded increased to over \$53 billion, or 43 percent of all procurement dollars. Another 29 percent was awarded as follow-on dollars to previously competed contracts. Only 28 percent was non-competitive. The savings benefits of increased competition can be astounding. Just one example, savings from increased competition on Navy contracts funded the complete reactivation cost of the Battleship USS Missouri.

We have also encouraged more companies to compete by working with industry groups and representatives to alert them to the future demand for defense goods and services in their respective industries. As a result, companies can better prepare themselves to compete for defense business and pursue the necessary capital investment saving them both time and money.

These and other reports have diverted attention from the tremendous successes we have had in improving the management process.

Acquisition Improvement Program

Shortly after I assumed office, I instituted a sweeping reform of our acquisition process -- the Acquisition Improvement Program.

(Chart 10 : Multiyear Procurement Programs)

Multiyear procurement has been a very important part of that program. Economic lot buying rather than purchasing weapon systems on an annual basis can result in significant long-term savings. From FY 1982 to FY 1985, we have requested multiyear procurement for 50 programs. The Congress has approved, and DoD has implemented, 32 of these requests for a savings of \$4.5 billion. However, congressional disapproval of the remaining 18

programs has resulted in a loss of \$1.8 billion of potential savings.

We requested multiyear procurement for 10 programs in the FY 1986 budget for estimated savings of \$1.7 billion. The M-1 tank program in particular provides an excellent opportunity to save money while still allowing flexibility to adjust procurement quantities. Our current estimate is that it will save \$656 million on the cost of 840 tanks per year. We feel very strongly that full congressional support is necessary for us to achieve even far greater future savings.

(Chart 11 : Economic Production rates)

Another program which we have demonstrated can yield large savings is the promotion of economic, cost effective production rates for mature programs where the design is fixed and production facilities and overhead expenses are relatively fixed. Through FY 1985, decisions were made to ensure economic, stable production rates for 18 high priority programs, thus avoiding \$2.6 billion in additional costs from FY 1982 to FY 1989. Prime examples are the F-14A and F-16 aircraft programs. These successes notwithstanding, our efforts are being frustrated by the continuing necessity to cut and/or stretch out high priority programs to accommodate budget reductions. It should come as no surprise therefore, that recent congressional reductions are eroding a large amount of potential savings from this initiative. The FY 1986 request included potential savings of only \$100 million through the use of economic production rates for 9 systems due to the eroding defense resource levels.

We are very proud of the successes we have achieved from implementation of our Acquisition Improvement Program. Not only have we reduced acquisition costs of our weapon systems, we have also eliminated problems which have plagued certain programs in the past. For example, the last four TRIDENT submarines were delivered to the Navy four to seven weeks early and the ships now under construction are on or ahead of negotiated schedules. The engine problems of the M1 tank have been solved and the tank is winning praise even from its European competitors.

Combatting Waste, Fraud, and Abuse

(Chart 12 : DoD Efforts to Stop Waste, Fraud, and Abuse)

One of our highest priorities is assigned to efforts to improve the management of our defense program and to curb, waste, fraud, and abuse. We started the largest series of audits in the history of the defense department, and uncovered skeletons in numerous closets -- precisely the ones you have been reading about. We looked for them and, not surprisingly, we found them.

I am attacking this problem on all fronts and all parts of the Department associated with the acquisition of defense requirements or the oversight of such acquisitions are joined in this battle. I am pleased that our aggressive action is paying off as shown by the almost daily reports in the press of some new problem. However, what is not reported quite as frequently is the action we have taken to alleviate the problem and make sure that it doesn't happen again. It is unfortunate that so many do not understand my motives and goals and choose instead to withdraw their support for a strong national defense.

The Defense Inspector General's (IG) Office has been a major part of this effort. Since 1981, the IG's staff has completed over 58,000 internal audits with a potential savings of over \$7.9

billion. In FY 1984 alone, there were 18,532 audit reports issued by the Inspector General's Office on the internal management of DoD operations and programs for a potential savings or cost avoidances of \$2.7 billion. But, the real measure of success lies in our ability to follow-up on these audits and, in this area, we have clearly made great strides. Over the past three years, 156,410 corrective actions have been completed on 50,939 DoD internal audit reports. During the same period, 2,350 corrective actions have been instituted on 1,077 General Accounting Office (GAO) reports, resulting in savings of \$4.6 billion.

This effort is not diminishing. Rather, as exemplified by the IG's latest semiannual report, our efforts are increasing. During the period ending March 31, 1985, the Department's 11 internal audits, internal reviews, and military exchange audit organizations produced a total of 8,491 reports recommending thousands of ways the Department could trim its spending and increase its efficiency. The total potential savings and cost avoidances resulting from the implementation of these recommendations are more than \$1.6 billion. We have reviewed these reports and have already agreed to implement recommendations which will result in savings and cost avoidance of \$790 million.

Another key audit organization is our Defense Contract Audit Agency (DCAA), a separate agency that conducts world-wide audit activities. There has been significant cost avoidance in procurement contracting due directly to these contract audit efforts. In FY 1984, the DCAA issued over 61,000 audit reports, and savings and cost avoidances of \$7.4 billion were realized from the audit reports which were closed. The number of cases of contractor fraud reported from FY 1981 through FY 1984 has increased fourfold. The percentage of audit exceptions sustained also increased from 55 percent in FY 1981 to 65 percent in FY 1984. DCAA's efforts are accelerating as well. In the period covered by the latest IG report, DCAA auditors issued 27,021 reports which questioned the validity of \$15.7 billion in costs associated primarily with proposed contracts. During the same period, net savings from audit reports closed amounted to over \$2.8 billion.

DCAA has a number of initiatives underway to strengthen the audit function. Among these are plans to increase and strengthen their audits of defective pricing programs and assessing audit coverage of labor and fringe benefits at major contractors.

The Department continues efforts to detect and prosecute criminal fraud. We are vigorously pursuing criminal investigation of white collar crime in defense contracting and have established a new unit, the Defense Criminal Investigative Service. We have also set up a special Defense/Justice Department procurement fraud unit. The new IG report shows that during the reporting period, over \$35 million was collected in fines, penalties, and restitutions. In addition, the DoD Hotline, which has produced \$3.5 million in documented savings since May 1982, received 3,941 calls and letters from October 1984 to March 1985, 1,686 of which had sufficient merit to warrant investigation or referral.

(Chart 13 : Internal DoD Audits Involving Spare Parts)

You have all heard of the problems we have experienced in our spare parts procurement. What is often not heard is that most of those pricing abuses were uncovered by DoD auditors before one

defense dollar was spent. We didn't first read about them in the newspapers. It was our own people who uncovered serious problems with the way we procured our spare parts. Such was the case with the \$435 hammer, the \$110 diode, the \$9,600 wrench, the \$917 plastic cap, the \$640 toilet seat, and the \$748 pliers.

As a result of these discoveries, we initiated efforts to overhaul our system of spare parts acquisition. The results have been encouraging. Industry leaders are providing excellent cooperation, even to the extent of initiating their own spare parts awareness programs. We have received \$2.9 million in voluntary refunds from over 250 contractors. More than 1,000 Defense Department personnel have received a total of \$350,000 in awards for identifying overpricing infractions and challenging proprietary rights. These actions produced an additional \$20 million of cost avoidances. We also established a Deputy Assistant Secretary of Defense to act as a single focal point for spare parts management initiatives. Additionally, each Military Department has initiated a new spare parts reform plan to seek savings through vendor breakout and greater use of competition in spare parts procurement.

You are going to read more horror-story headlines in the future because we will continue to identify and eliminate fraud, abuses, and any bad management practices which we find. I would only ask that you remember two things when you read these headlines: 1) they most likely result from efforts of our own people to uncover some problem that existed for some time, and 2) the headline and accompanying story may misconstrue the facts.

I am determined to stop those illegal and inefficient practices wherever they exist and for whatever reason. I don't want the next Secretary of Defense and Secretaries of the Military Departments to have to deal with problems that resulted during my stewardship.

Other Initiatives

All of this reflects what we have done in the last few years. There are two other areas which we intend to pursue rather vigorously in the year ahead. We plan to place particular emphasis on reducing contractor overhead costs, which make up one-third of the price charged by prime contractors for weapon systems. We are suspending payments to contractors who make improper claims. Our new policy puts the burden on the contractor to certify, under penalty of perjury, that submitted costs are altogether proper. In August 1984, my Undersecretary for Research and Engineering initiated a joint service review of these contractor costs. In the coming year, we will build upon the results of that survey by establishing additional principles of overhead cost control, and by working with industry to develop additional incentives for reducing overhead costs.

Second, we will intensify our efforts to eliminate overspecification in defense contracts. We have made it a top-level management priority, not only in the Department of Defense but within industry, to streamline the standards and specifications that govern our procurements. Special emphasis is placed on writing specifications for DoD contract requirements in terms of "what is needed," and "performance required" rather than detailed "how to" specifications in the early stages of design. Under this approach, defense contractors are required to identify and recommend the most cost effective contract requirements for application to future acquisition phases. Initial response to this effort has indicated first rate cooperation from industry.

The Council of Defense, Space, and Industry Associations has given us their full support, as have many individual contractors. We expect to reap great rewards from this effort, not only in savings but in increased productivity.

We are also investigating other recommended improvements to the budget process. Both the House and Senate versions of the defense authorization bill contain provisions requesting us to evaluate the possibility of instituting a two-year budget process for DoD, beginning with the FY 1988 and FY 1989 budgets. We believe that a biennial budgeting cycle could well have real benefits for both the Congress and the Department. Recognizing the interest in the biennial concept within Congress, we are going to evaluate carefully alternative two-year budgeting approaches over the next several months.

We are also, reviewing possible changes to the military retired pay system to reduce costs, as called for in both the House and Senate Authorization bills for FY 1986. There are a number of ways to achieve retired pay savings directed by the Congress, such as delaying the years of service eligibility for retirement, reducing the basic pay multiplier and or reducing/eliminating COLA adjustments. However, we are very concerned that none of these is based on legitimate defense needs or supports efforts to sustain a strong readiness capability. As the Chairman and the Joint Chiefs have emphasized, changes to the retirement system must consider the full impact on U.S. national security. Large reductions are expected to jeopardize the strong defense position this nation has rebuilt and will place our readiness capability at risk. We will continue to develop options which would address the range of possible outcomes and which would minimize the impact on force readiness.

As you can see, we are continuing our vigorous pursuit of improved management goals we established in 1981. However, I would be remiss if I didn't mention that we have also discovered during this extensive effort that management flexibility is often restricted by congressional micro-management of defense programs. While it is no surprise that congressional interest has increased, we are concerned that the result has been a growing number of congressional reporting demands and a striking increase in the amount of time our managers spend up here testifying before committees and subcommittees. We recognize and agree with the need for congressional oversight of the Department's programs in sufficient detail to be assured that our requests are fully justified and compatible with national priorities. Nonetheless, the trend towards micro-management consumes too much of Congress' time and too much of ours. Some happy medium needs to be pursued.

Conclusion

In conclusion, I would emphasize again my responsibility to provide the President, the Congress, and the American people with a realistic assessment of the threats to our security and the level of resources and programs necessary to counter that threat. That is why I continue to speak out against budget reductions which are made without regard to the increasing threat and which may lower our defense capabilities now and in the future. That is also why I am so persistent in my attempts to see that the defense dollar is spent wisely and efficiently, and the management initiatives that are showing good results, are expanded.

I must say that it is more than a little frustrating to note that many in the Congress are allowing current fiscal concerns to outweigh security concerns in the allocation of funds for the defense of our way of life. In response to that I can only repeat what I have said many times. Those who believe that somehow the defense budget can be regarded as a tool of fiscal policy at the expense of our national security goals are quite wrong. We cannot have a strong economy and a weak defense. Likewise, we cannot have a stronger defense and continue making large defense cuts. There has not been a reduction in the threats facing the United States, her allies, and other freedom-seeking people of the world. We have not and cannot lessen our global commitments or the threats that face us in many different parts of the globe. Nothing occurring in the realm of international affairs would indicate that we could afford to abandon our goals in midstream. We must remember the commitments we made in 1981 and reinforced in 1984.

I cannot state strongly enough that the financial investment we have made in our future security is paying off. And our leadership in the world is benefiting us and our allies as well. It would be all too easy to forfeit the strength we have worked so hard to attain these past four years, to pause for awhile in our efforts, to stretch our programs, to skimp once again on pay, or ammunition, or spare parts. But, if we are to make up for years of neglecting our defenses, and at the same time pass on to our posterity a more secure legacy than we inherited, we, the Administration, the Congress, and the American people, are going to have to be firm in our resolve to achieve our long-term national security goals.

Thank You.

CURRENT STATUS OF DOD BUDGET

(Current \$ in Billions)

	1986	1987	1988	TOTAL 1986-1988
PRESIDENT'S BUDGET				
Budget Authority	313.7	354.0	401.6	1,069.3
% Real Growth	5.9	8.2	8.8	
Outlays	277.5	312.3	348.6	938.4
FIRST CONCURRENT RESOLUTION				
House Budget Authority	284.1	303.4	325.5	913.0
% Real Growth	-3.8	+ 2.4	+ 2.9	+ 1.4
Senate Budget Authority	294.0	314.1	336.9	945.0
% Real Growth	0	+ 2.4	+ 2.9	+ 5.4
CHANGE				
House	-29.6	-50.6	-76.1	-156.3
Senate	-19.7	-39.9	-64.7	-124.3

Chart 1

Production of Selected Weapons for NATO and Warsaw Pact Forces (1975-1984)

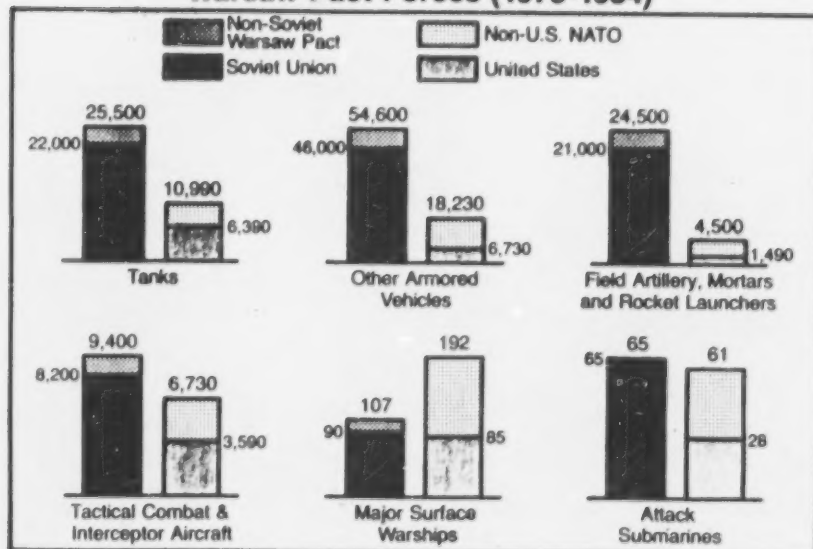
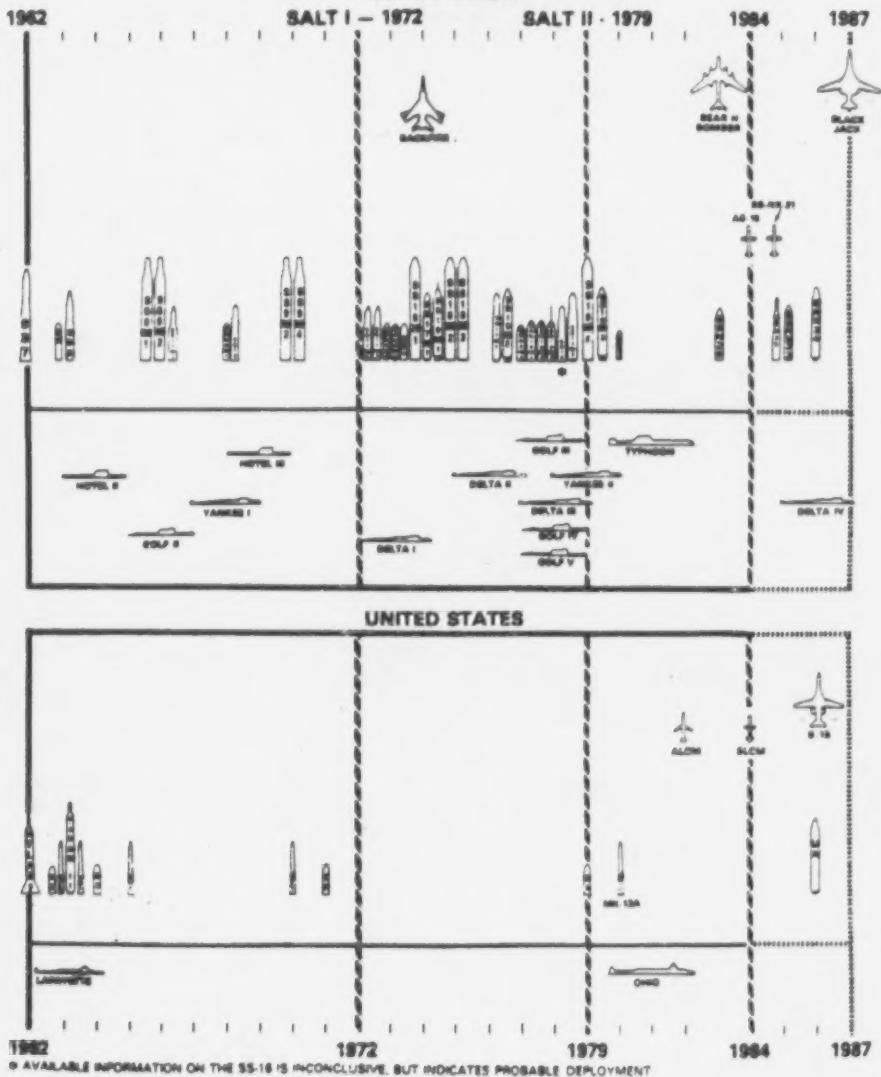


Chart 2

INTRODUCTION OF STRATEGIC SYSTEMS BY YEAR SOVIET UNION



6 AVAILABLE INFORMATION ON THE SS-16 IS INCONCLUSIVE, BUT INDICATES PROBABLE DEPLOYMENT

Chart 3

DOD BUDGET AUTHORITY (Billions FY 86 Dollars)

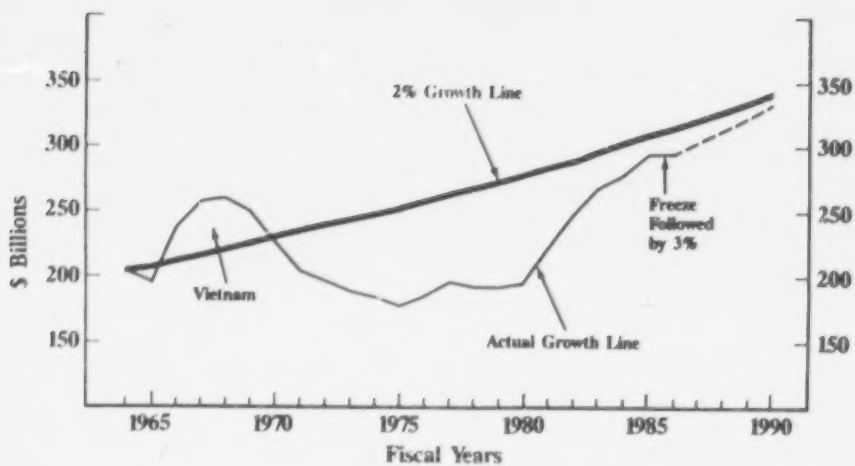


Chart 4

ADMINISTRATION RECOMMENDATIONS of SPECIFIC REDUCTIONS to DoD BUDGET

<u>DATE</u>	<u>ACTIONS</u>	<u>\$ in Billions</u>
May 1982	FY 1983 Revision	7.5
June 1983	FY 1984 Revision	4.8
May 1984	FY 1985-1987 Revisions (Rose Garden)	56.8
May 1985	Applied Savings to FY 1986	<u>4.0</u>
TOTAL		73.1

Chart 5

ADJUSTMENTS TO MARCH 1981 PLAN BUDGET AUTHORITY

(Billions of Dollars)

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>Total 1982-85</u>
MAR 1981 AMENDMENT	221.8	254.5	288.9	326.2	1,091.4
CURRENT STATUS	213.8	239.5	258.2	284.7	996.6
TOTAL ADJUSTMENT	-8.0	-15.0	-30.7	-41.5	-95.2
Program	-3.2	-3.1	-8.7	-11.7	-26.7
Pay Adjustments	+ 1.7	-0.4	-3.2	-4.9	-6.8
Inflation	-6.5	-11.5	-18.8	-24.9	-61.7

Chart 6

SUMMARY OF LOWER INFLATION ADJUSTMENTS TO THE MARCH 1981 PLAN

	<u>\$ in Billions</u>
Adjustments prior to submission	-33.3
Reprogramming actions (Reapplied savings with approval of Congress)	-13.1
Lapses (BA returned to Treasury)	-7.1
Congressional cuts for repricing and contract savings	<u>-8.2</u>
Total	-61.7

Chart 7

ANNUAL RATE OF COST GROWTH FOR SELECTED MAJOR ACQUISITION PROGRAMS

(Excluding Economic and Quantity Changes)

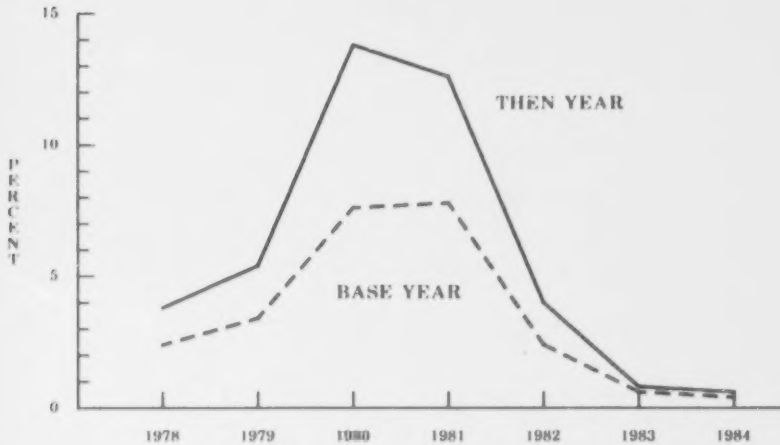


Chart 8

INCREASED COMPETITION IN DOD PROCUREMENT

- We have appointed almost 600 Competition Advocates to expand the use of competition
- Competition in new ship programs has been increased from 26 percent in 1981 to about 90 percent today
- Since FY 1980 the number of annual competitive contracts has increased by 37 percent to over 6 million contracts
- In FY 1984:
 - 43 percent of all procurement dollars, \$53 billion, were under competitive contracts
 - 29 percent was awarded as follow-on dollars to previously competed contracts
 - Only 28 percent was non-competitive

Chart 9

MULTIYEAR PROCUREMENT PROGRAMS

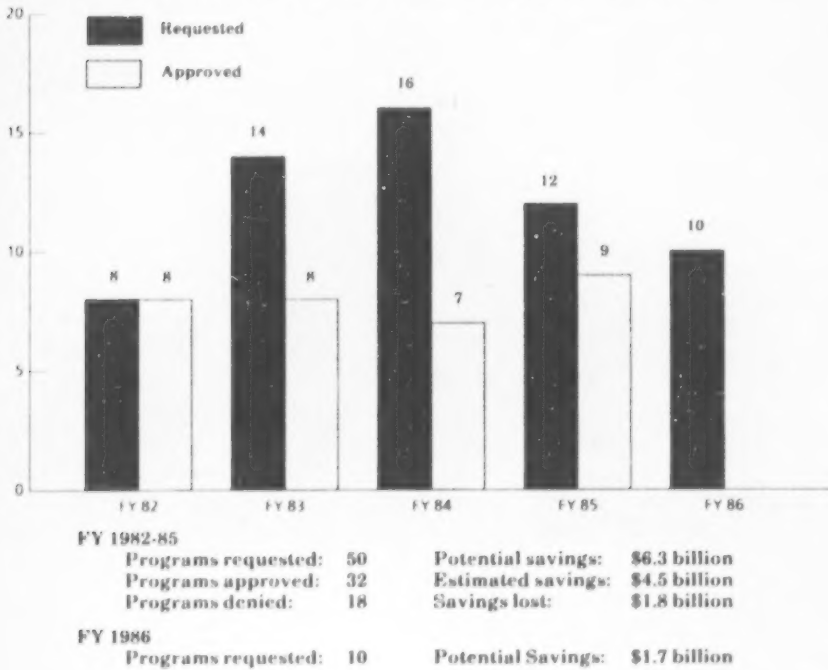


Chart 10

ECONOMIC PRODUCTION RATES

- From FY 1981 through 1985, economic production rates (EPRs) were set for 18 high priority programs, avoiding \$2.6 billion in additional costs. Included are:
 - AIM-9M air-to-air missile
 - F-14A
 - F-16
- In FY 1986 budget, EPRs for 9 additional systems are expected to save \$100 million. Included are:
 - Bradley Fighting Vehicle
 - Hellfire
 - TOW II missile
 - Hawk missile

Chart 11

DoD EFFORTS TO STOP WASTE, FRAUD AND ABUSE IN FY 1984

• Audits of internal management of DoD operations and programs	- Reports issued	18,532
	- Potential savings and cost avoidances	\$2.7 billion
• Investigative cases	- Cases closed	15,837
	- Cases referred for prosecution or administrative action	5,546
	- Convictions	548
	- Fines, penalties, restitutions and recoveries collected from referrals:	
	-- to Justice Department	\$18.0 million
	-- to Military Departments	\$11.2 million
• DCAA audits	- Reports issued	61,081
	- Net Savings and cost avoidances from reports closed	\$7.4 billion
• DoD inspection organizations	- Reports	10,102
	- Follow-up actions completed:	
	-- Audit recommendations	63,351
	-- Estimated savings and cost avoidances	\$1.9 billion
• Defense Hotline	- Calls and letters received	7,820

Chart 12

INTERNAL DOD AUDITS FOR SPARE PARTS

<u>Item</u>	<u>Who identified the overcharge</u>	<u>What was done</u>
\$435 claw hammer	- Navy Employee	- Contractor refund.
\$110 Diode	- DoD Auditors	- Contractor Refund .
\$9,600 Wrench	- DoD Auditors	- Refused to pay.
\$917 Plastic Cap	- Air Force Crew Chief	- Contractor refund and \$1,100 awarded to Air Force Sergeant.
\$640 Toilet Seat	- Open bidding/new competitor	- Contractor refund and procurement stopped.
\$748 Pliers	- Air Force Employee	- Refused to pay.

Chart 13

JOINT CHIEFS OF STAFF

STATEMENT OF GENERAL JOHN W. VESSEY, JR., U.S. ARMY, CHAIRMAN,
JOINT CHIEFS OF STAFF

HEALTH OF U.S. ARMED FORCES

Senator STEVENS. General Vessey, we are happy to have the Chairman of the Joint Chiefs again with us today. We will be happy to hear from you.

General VESSEY. Thank you, Mr. Chairman.

You have my written statement. I will ask that it be included in the record.

Senator STEVENS. It may be included.

General VESSEY. I will simply summarize a few points from it and add to a few of the points that the Secretary made.

The first thing that I would like to say is that the health of the Armed Forces of the United States is good.

Senator JOHNSTON. Would you pull that mike up toward you, General.

General VESSEY. We have good, strong armed forces manned by good people that the American people can be proud of.

The Joint Chiefs of Staff participated fully in the original budget request that was submitted to the Congress. We believe that, given the threats that the Nation faces, that budget request was both sensible and prudent. We recognize the reductions that you pointed out in your opening statement that are to be made. We will simply say to you that we do not advocate those reductions but we recognize that the decisions have been made to make those reductions for other than military reasons.

We want to tell you that we will work with the Department to try to help swallow those reductions in as fair a fashion as we possibly can to reduce the impact on the defenses of the Nation in the future.

AREAS OF BUDGET DISTRIBUTION

The money that has been added to the defense budget over the last 5 years has produced, as I said earlier, good armed forces. The money was spent in four distinct ways:

The equipment modernization program was accelerated.

The efforts to recruit and keep good people got extraordinary attention.

Improvements in training were made.

And then improvements in the support of the forces were made.

PERSONNEL IMPROVEMENTS

What I would like to tell you is that at the heart of the improvement of the armed forces is the people. Without good people, we are not going to have good armed forces. But it is the addition of good equipment and increases in training that have brought about the remarkable increases in combat capability. I would invite all of you to visit the armed forces and see that improvement in combat capability. I will cite just a few of them.

M-1 TANK

The M-1 tank has now been fielded in significant numbers and the combination of a very good tank manned by a very good crew and with improved training has produced a remarkable increase in combat capability of the tank force.

The tank crew qualification scores are up about 46 percent from what they were 4 years ago. The first-round hits in tank gunnery, both night and day, are up from about 50 percent to around 80 percent. The operational readiness rate of the tanks is up.

IMPROVEMENT IN COMBAT CAPABILITY

The combination of all three of those things has produced an almost exponential increase in the combat capability of the force.

The same is true across the rest of the force. The Air Force with the F-16 fighter today gets better accuracy with the one-man crew in a single-engine fighter than it did with the two-man crew in a twin-engine fighter a few years ago; and it does it by dropping dumb bombs instead of the laser-guided bombs. This is a remarkable improvement.

Things like the Aegis cruiser have added about sevenfold to the air defense of the carrier battle group for the Navy.

What I want to tell you is that both in the active forces and Reserve Components the combat capability has been improved dramatically. We have plenty of room for improvement, though—which is another point I would like to make—and with your help, we will make that improvement.

CHEMICAL RETALIATORY CAPABILITY

I should like to make a special point about what has happened thus far this year with the budget in one area and that is the chemical retaliatory capability. I am absolutely delighted that both Houses of Congress have moved toward doing away with one of the most significant vulnerabilities that our armed forces face, the lack of a good chemical retaliatory capability that will take us on into the years ahead. I would hope that the remaining actions of the Congress will support that as we get this final bill out.

STRATEGIC MODERNIZATION PROGRAM

I would like to add a few points about the Secretary's point on the strategic modernization program. We have relied on the strategic Triad for a number of years now because it hedges against technological surprise and tactical surprise.

We tell the Soviets that we are not building a first strike nuclear force. We keep about 25 percent of our warheads in our ICBM force in contrast to the Soviets' 70 or 75 percent. We believe that the combination of the Triad itself and a good warning system provides protection for the entire system.

MX MISSILE

The Secretary pointed out that the modernization program is going ahead, but I would like to call your attention to the MX mis-

sile particularly because it is one that has had a great deal of controversy in the Congress. I will tell you that the missile is an extraordinarily good missile and every test that we run of it confirms that.

The second thing I would like to tell you is that every analysis that the JCS have run for our requirements for our strategic weapons indicated that at least 100 MX'es are required to carry out our war plans and ensure that the Soviets understand they cannot attack us with success.

I understand the actions that the Congress has taken thus far this year—we are arguing between the House's 42 missiles and the Senate's 50 missiles—but what I would like to tell you is that the only condition that has changed since the Scowcroft Commission confirmed the need for 100 MX missiles is that the Soviets have added to their force.

So, I would urge that the Congress keep alive the opportunity to go ahead with 100 MX missiles.

PEOPLE IN ARMED FORCES

The last point that I would make on the actions you are about to take is to reinforce that point about the people in the armed forces. They are in fact the heart of whatever it is we do, whether you go to the ballistic missile warning sites or go on Trident submarines or go into the general purpose forces. Whether it is Korea, Europe, or wherever it happens to be, you see that the combat capability is provided because we have good people who are well trained and have good equipment.

If we don't keep good people and recruit good people, our armed forces won't be good.

Thank you very much, Mr. Chairman. It is a pleasure to be here. We are ready for your questions.

[The prepared statement of General Vessey follows:]

PREPARED STATEMENT OF GEN. JOHN W. VESSEY, JR. (USA)

CHAIRMAN

JOINT CHIEFS OF STAFF

Mr. Chairman and Members of the Subcommittee.

I report to you that the military posture of our Armed Forces is sound. The forces are manned with good, capable people; their armament is being improved with good, modern equipment; their training has been improved; and they have better support behind them. By every common sense measure, our forces are more ready than at any time in the recent past. These improvements are due to the support of the American people and the Congress; and, on behalf of the men and women in our Armed Forces, the Joint Chiefs of Staff and I thank you for your support. We ask for your continued assistance in the FY 1986 budget.

The Nation should not be complacent, nor accept the notion that these past three years can somehow erase the decline in real growth over the 1970s or eliminate the gap caused by the continued growth of Soviet power. The Joint Chiefs of Staff have looked at the threats to our Nation's security and at our strategy. We believe this year's original budget request was sensible. It was neither massive nor excessive. It was a reasonable response to threats to the national security and to the requirements of the military strategy of the United States. Reductions in the President's requested budget will slow the momentum of improvements to our deterrent posture and they will affect readiness and retard responsiveness in a crisis.

The Joint Chiefs do not advocate these cuts. However, we participated fully with the Secretary of Defense in the development of the amended budget before you now. We participated understanding the reductions had to be developed. The threats to our interests have not slackened, but, if the Defense Budget needs to be cut for reasons other than defense, then the way the Secretary has laid out these cuts has the support of the Joint Chiefs of Staff.

Good people are the heart of our forces, and I am pleased that the favorable trends reported last year generally continue. Recruitment and retention are good. About 50 percent of the force are careerists. We have a fine corps of non-commissioned officers. By every standard, we have well-disciplined, dedicated, capable Service men and women who are proudly serving their country. We need to continue to support the programs which will ensure our Armed Forces are manned by intelligent, trained, well-disciplined soldiers, sailors, airmen, and marines.

Our forces are better equipped. New, good equipment from long-delayed modernization has made its way into the hands of our forces -- active, reserve and National Guard. In FY 1984 alone, the equipment added to the force included the following important items:

- 769 M-1 Tanks
- 598 BRADLEY Fighting Vehicles
- 120 BLACKHAWK Helicopters
- 209 PATRIOT Missiles
- 72 Multiple Launch Rocket Systems
- 11 APACHE Attack Helicopters
- 187 New F-15, F-16 and A-10 Fighters
- 46 Ships (including 16 warships) and 282 Aircraft for the Navy
- Plus thousands of trucks, small arms, and communications items.

We have added not just quantity to our force but, more importantly, greatly increased capability. A few examples:

-- M-1 ABRAMS Tank - Average tank gunnery qualification scores 46 percent higher than those of M-60A3 crews. Last year, a US tank company in M-1's scored the highest in the prestigious Canadian Army Trophy competition against the best tank crews and tanks in the Free World.

-- M-2 BRADLEY Fighting Vehicle - High-speed battlefield companion to the M-1. More armor protection for the crew; TOW missile and cannon firepower; and greatly increased mobility in comparison to the M-113 Armored Personnel Carrier (APC).

-- F-16 Fighter - The best single-engine fighter in the world. Maneuverable, agile, maintainable (needs only 1/2 maintenance-man hours of the fighter it replaced). Phenomenal bombing accuracies; does as well with conventional bombs as F-4 did with guided bombs.

-- M-16A2 Rifle - Lightweight, dependable, versatile. Improved accuracy, improved sustained firing capability for the infantryman.

-- AEGIS on the TICONDEROGA Class cruiser - Provides up to nine-fold increase in air defense firepower for the protection of the Fleet.

-- SL-7 Roll-on/Roll-off (RO/RO) Fast Sealift - USNS ALGOL during September 1984. REFORGER exercise moved 271 tracked vehicles, 652 wheels, 230 military containers -- loaded in only 36 hours, and capable of traveling from Beaumont, TX, to Antwerp, Belgium, in six days instead of 13.

Our forces are well trained and they know how to fight together in ways which capitalize on the advantages the new equipment can offer. We are emphasizing joint and combined training. The training is realistic and innovative. The forces are trained and measured against high standards. Support and sustainability programs are on-hand as new equipment is fielded to ensure that the new equipment is integrated effectively. In the past three years the funding for ammunition and spare parts has grown by over 25 percent. Within those areas we have doubled funding for war reserve spares, and in Europe alone, Army ammunition on the ground is up about 16 percent.

All these factors -- good people, good equipment, good training and support -- add to our strength. The Joint Chiefs of Staff believe that this improved military posture helps deter war and can help provide a climate for sensible negotiations with the Soviets. A strong national defense helps ensure the peace and safeguard our security.

Your support is important for the continued security of the Nation and that of our allies. Regrettably, our security and that of the West are not assured. Even under the best of circumstances, the second half of the decade of the 1980's will continue as a period of challenges to our security and as a period of widespread instability. The Soviet Union has been unrelenting in its buildup of military power and in its willingness to use or to threaten to use that power either directly or through the use of its surrogates.

As the Congress considers the defense budget, I urge the members to remember the need for day-to-day readiness. Crises too often give little warning of their approach. The lessons learned since World War II show us that no matter how good the preparations, orderly mobilization is very difficult and very costly once growing tensions indicate immediate danger. Under modern conditions, hastily building new, battle-ready forces is not practical even if the national treasure is spent without restraint. An Army, Navy, Air Force and Marine Corps, in-being and maintained in readiness, are the best military guarantors of our security. They add weight to our diplomacy and support the other elements of our national power.

Every indication the Joint Chiefs of Staff see tells us the Soviets will most likely continue on the path they have been on, fielding stronger nuclear and conventional forces on the land, on and under the sea, in the air, and in space. The United States has no plans to match the Soviet buildup weapon for weapon. Certainly, the Joint Chiefs do not believe this should be done or need be done. However, this Nation and its allies simply must do what is needed to counter the Soviets with a military posture which makes clear that the Soviets cannot achieve their aims by starting a war or threatening war.

The Joint Chiefs believe that our strategy provides this Nation with a sensible approach to preserve the peace and to provide for our national security. It is not a new strategy. It is the strategy of deterrence which we have pursued for nearly forty years. The success of that strategy rests on ready, modern Active and Reserve Component forces, both conventional and nuclear, and on the maintenance of strong alliances.

THREAT

While being pleased with the improvements in our own forces, we must remember that the Soviets have not been standing still. The momentum of the Soviet military buildup, unequalled by any peacetime nation in history, will carry Soviet force expansion and modernization programs well into the 1990's. With this pace of modernization over the last ten years, the Soviets have produced about three times as many aircraft and about four times as many tanks and other tracked vehicles as the United States. They have deployed a large and powerful navy. The Soviets have the world's only operational antisatellite weapon.

Soviet forces have always enjoyed significant quantitative advantages. To counter this, the United States has traditionally relied on the qualitative advantages afforded by its technology. The Soviets, however, are continuing to field new equipment, much of it comparable to that produced in the West; and our qualitative edge is narrowing. The Soviets have achieved military advantages

through a willingness to devote large resources to research and development, through adaptation and outright piracy of Western technology, and through their willingness to accept inefficiency in order to field new equipment rapidly. They devote twice the resources to research and development as the United States and they produce five times as many scientists and engineers -- over 400,000 annually. In the past ten years, the Soviets have produced some 40 major aircraft developments, 60 major shipbuilding developments, 50 ballistic missile and space system developments, and 45 in ground forces. They develop new jet engines and several new rockets every year and they are presently testing two new attack helicopters.

With the momentum of investments in their military forces over the past decade and with sustained levels of effort in research and development, net Soviet combat power in every theater has increased. In the ground forces in the European Theater, for example, the Soviet Union along with the other countries in the Warsaw Pact has continued to increase its strength in armor, anti-armor and heavy fire support. The Soviet air forces are now flying third generation attack and fighter aircraft throughout the Warsaw Pact. They have deployed the MiG-29 FULCRUM with look-down/shoot-down weapon systems and are expected to deploy the SU-27 FLANKER with similar capabilities. The Soviet Navy has by far the world's largest submarine fleet with 376 ships. There are 250 BACKFIRES, over 120 of which are dedicated to naval aviation and global anti-ship missions, and the BLACKJACK -- comparable to the B-1B -- will be operational by 1988. Their surface combatants are among the most modern in the world, and they are now building a nuclear-powered aircraft carrier we believe will be large enough to operate conventional take off and landing, high-performance jet aircraft.

Most ominously, the Soviets continue to modernize their strategic nuclear forces. In 1982, the Soviets deployed more, highly accurate intercontinental ballistic missile (ICBM) warheads than we intend to deploy in all of our PEACEKEEPER program. In 1983, they deployed another 200 ICBM warheads and in 1984 they were nearing completion of the latest phase of the modernization of their current silo-based strategic ICBMs. The Soviets' SS-18 and SS-19 missiles, which would total over 5,000 warheads, are in the world's hardest silos, with a redundant, survivable, command and control network. Their Moscow complex is protected by the world's only operational ballistic missile defense system. We expect deployment of newer missiles, the SS-X-24 and SS-X-25. We have yet to deploy a single PEACEKEEPER missile.

Soviet power is a reality that cannot be assumed away. With a population exceeding ours by only 17 percent, they have active armed forces two and a half times larger and ready reserves exceeding ours by about a factor of ten. We must continue to face up to the realities of Soviet military power this year and in the coming years with a sustained program that demonstrates the steadiness of our resolve to defend our interests.

WHAT THIS BUDGET PROVIDES

The Joint Chiefs believe that the revised budget for FY 86 supports the Nation's strategy, though at a lesser degree of confidence than we would have liked. We participated in the formulation of this budget, and we are satisfied that the proper balance has been struck at the reduced resource levels which have been set. There is sensible balance in the resources provided for nuclear and conventional forces. Today's readiness needs are balanced with the need for modern forces in the future. The budget provides growth in research and development activities to help maintain a qualitative advantage for US forces in the years ahead.

STRATEGIC NUCLEAR FORCES

The JCS support the full deployment of 100 PEACEKEEPER missiles. The Congress needs to understand that every JCS analysis of the military requirement for the modernized ICBM confirms the need for 100 MX missiles. I recognize that the Congress in adjusting the FY86 military budget may not be able to find a way to authorize the full number of missiles in the President's original budget. Whatever decision is made, I strongly urge that the Congress set in motion the necessary provisions for completing the program for 100 missiles.

All the original justification for deploying the MX remains in effect. The only things that have changed since the bipartisan Scowcroft Commission confirmed the need for 100 MX missiles are the steady and unrelenting additions to Soviet strategic forces. One hundred MX missiles make a critical contribution to deterrence because the MX threatens what the Soviets value most, their hardened ICBMs and leadership.

Our TRIAD of strategic nuclear forces is the umbrella under which all our

deterrent forces operate. The TRIAD is designed as a deterrent, not for a first strike. About 75 percent of our strategic weapons are in the bomber and submarine forces and only 25 percent in ICBMs. We maintain the three elements of our TRIAD because we believe each leg of the TRIAD provides special strengths which reinforce the deterrent value of the other legs and which help guard against tactical and technical surprise. The TRIAD has been the basis of our deterrent posture for over two decades.

The United States delayed its strategic nuclear modernization, and we have had to modernize all three legs of the TRIAD at the same time. We are making steady progress with the bomber and submarine force modernization. The TRIDENT submarine program will modernize our aging ballistic missile submarine fleet and the D-5 missile will add new capabilities to the force at the end of this decade. The B-1B program is on schedule; it will be in the operational force next year. It will provide a modern, responsive bomber capable of penetrating Soviet defenses.

The modernization of the intercontinental ballistic missile force has encountered a series of delays well known to this subcommittee. The delays have not been technological or system delays; the missile is performing superbly. The Joint Chiefs of Staff urge the immediate deployment of the PEACEKEEPER. Its deployment will strengthen the TRIAD, help ensure deterrence, and strengthen the position of our nuclear arms negotiators. The PEACEKEEPER is tested and proven, and it is ready for deployment. We must proceed now with the deployment of the PEACEKEEPER in order to maintain the effectiveness of the TRIAD and our deterrent strategy into the next century.

Research and development on the small ICBM is proceeding. It will add the new dimension to the ICBM forces in the mid-1990's.

STRATEGIC DEFENSE INITIATIVE

The Joint Chiefs support the President's Strategic Defense Initiative (SDI) to have this Nation employ its technological talent to determine whether an alternative to sole reliance on offensive retaliation is feasible. Within the bounds of the ABM Treaty, the United States is exploring means by which we might end the dominance of offensive ballistic missile weaponry. The cuts being considered in this important program will severely restrict our ability to continue research and will cause us to lag behind the Soviet Union -- the only nation in the world with an operational ABM defense system.

CHEMICAL

The Soviets have extensive offensive and defensive chemical warfare capabilities. Our lack of a modern, chemical retaliatory capability detracts from our overall deterrent posture. Should deterrence fail, our forces would be fighting at a great disadvantage in spite of the strides we have made in improving defenses against chemical weapons. Unless we modernize our chemical munitions and continue to provide for a sensible research and development program to prevent technical surprise, we provide little incentive to the Soviets for negotiating a verifiable arms control agreement prohibiting chemical weapons. This budget provides for long leadtime items and facilities in order to begin production of binary chemical weapons, weapons which are safer to store and to employ and which help reduce the likelihood of Soviet use of chemical weapons.

NEGOTIATIONS

The Joint Chiefs fully support efforts to obtain genuine, equitable and verifiable reductions in armaments. Arms control and other related negotiations are being pursued with the idea that equitable and verifiable agreements can contribute to security and stability. Negotiations are not a substitute for force modernization; rather, negotiations and our modernization programs are mutually reinforcing. We must modernize our own systems even while we seek genuine reductions in force levels through negotiations.

PEOPLE

No matter how good the strategy or excellent the equipment, good soldiers, sailors, airmen and marines remain the heart of our defense forces. This Nation has very good people in its Armed Forces today because of the Nation's renewed pride and faith in those people and the willingness to pay the price for adequate security. The men and women in uniform need to know we will give them the best possible equipment, training and support for their difficult tasks; and they need to know this Nation will provide reasonable pay and compensation for them and adequate support for their families. As we continue into a period of economic recovery and as we face a declining manpower pool, we must guard against the erosion of pay, retirement, and other benefits. We surely do not want to return the forces to the unstable personnel picture of the mid-1970's.

The budget provides the right sort of support.

CONCLUSION

In conclusion, I want to repeat what I said before this Committee a year ago: that this Nation and its allies must remain strong and steady. Last year I reported to you that we were making progress in reversing the decline of the 1970's in our general purpose forces and that we were in the early stages of modernizing our strategic nuclear deterrent forces. That progress must continue in order to maintain the effectiveness of our deterrent strategy.

When the Joint Chiefs look at the Soviets' forces, we see forces that are very large and capable of offensive operations on a global scale. We see their willingness to use their forces and those of their surrogates in Asia, Europe, Africa and in this hemisphere to achieve their aims. Our forces are designed for deterrence. That has been our strategy since World War II, and it's been a sensible strategy.

The Joint Chiefs have examined the strategy and the threat, and we believe that this budget, though now reduced below a level we requested, will allow more modest improvements in our forces by providing good people, good equipment, good training, and good support. As I said at the beginning, we need not match the Soviets weapon for weapon or man for man; but, this Nation absolutely must continue to deal with the unrelenting growth of Soviet power and with the realities of an increasingly interdependent and dangerous world. I urge your support for the President's defense budget.

HEARING PROCEDURE

Senator STEVENS. Thank you very much.

Secretary Weinberger and General Vessey, for my part I think the Nation is well served by what you are doing and the way the Department is proceeding.

We have some problems. We are about to outline some of them, Mr. Secretary.

I am pleased you did use the graph to demonstrate the major issues involved in some of these strange procurement items, the amount of money which has been paid for coffee pots and pliers and other things and the fact that those are being disclosed by the procedures that have been set up in the Department.

Gentlemen, unless there is some objection, we will proceed on the basis we have in the past and every person will be recognized for 10 minutes until everyone has been recognized. We will go in the order that Senators came into the room provided that they are here when they are recognized.

Mr. Secretary, the main reason that we had, as I said in the beginning, for scheduling your appearance and General Vessey's appearance before this committee after the process was almost completed is so that we could review the changes that have been made over the period of the preceding 5 months or more.

STRATEGIC DEFENSE INITIATIVE

One of them is in the area of SDI. I should like to start off by asking you about reductions that are contemplated now by the House action and how those reductions will affect the long-term goals of SDI, the Strategic Defense Initiative, in our overall defense plan.

Secretary WEINBERGER. Mr. Chairman, as you know, the administration requested \$3.7 billion in the February budget submission. The Senate Armed Services Committee voted \$2.97 billion. The House Committee has voted \$2.5 billion and there has not been any resolution of that in conference.

REASONS FOR SDI RESEARCH

What will happen, obviously, is that there will be a lot less research conducted next year than was planned. I think it is vital to have this research continue for a number of reasons.

The first basic reason, although I believe this is not the most important one in the President's mind, is that the Soviets have been engaged in this activity for about 16 or 17 years. We have developed a new briefing, in unclassified and classified versions, which we will be glad to present to the committee, that illustrates the progress they have made in a number of very significant areas—projection of laser and directed energy and x-ray beams, for example—which, of course, is a very fundamental part of the method of destroying incoming missiles at great range.

They are working also on the so-called battle management of such a plan. That is the ability to locate and aim and fire these destructive beams. They have done a lot of work on that.

They are in some areas, I think it is fair to say, ahead of us, primarily because they have been working on it longer. It is always difficult to tell in a totally closed society like the Soviet Union, but they are doing a great deal. That is one reason.

The principal reason, the reason the President assigned such a high priority to it, is that he feels if the research can work, it can offer the opportunity of ultimately making obsolete these very terrible weapons, intercontinental and intermediate range nuclear missiles, in other words the opportunity to destroy those by nonnuclear means outside the earth's atmosphere. That is an opportunity that he thinks that we owe the world to try to see if that can be done. To the extent that these budget reductions are made in the research program, it slows down the program. It in many cases requires that we not do some of the things that we are doing. We are not just looking at the possibility of using the laser beam. We are looking at the possibility of using forms of direct energy x-rays and other means. We are also looking at the very complex and vital increase in computer capability that we have to have in order to pick out and discriminate between real warheads and decoys, identify thousands of targets and aim and launch after tracking and locking on these destructive beams. This all has to be done in milliseconds. We can't do it now, but we are able to do a lot of this on a single-missile basis.

As you know, we have destroyed one missile by firing another missile at it. We recently had, despite a first-day disappointment, a success in aiming a laser beam that went up 270 miles, expended four watts of power, hit its target on the shuttle and was reflected back to earth.

These are all individual things that can be done and are being done. We need to continue at the pace that was requested in order to make sure that the momentum is maintained and that advantage can be taken of individual breakthroughs.

I will just conclude by saying General Abrahamson recently said a lot of the things that appear to be very high barriers to success for this program are crumbling as a result of the fact that we are able to work in a number of different areas at once instead of just pursuing one line of inquiry and then, if it fails, turning to another.

Senator STEVENS. Prior to our markup of this bill, I would hope we could have one last briefing as to the status of the SDI for the membership of the committee.

CAP ON MX MISSILES

General Vessey mentioned the MX. You can give it to us for the record later, but in view of the cap that is proposed now on the MX, do you have an alternative to the hardened silo deployment concept and will you be looking at an increased procurement of the MX for the fiscal year 1986 or 1987 related to the testing program?

What is going to be the total program now on MX in view of the changes?

Secretary WEINBERGER. The total program has to be 100 if we are to cover the number of targets that we have to cover if we are going to maintain deterrence.

Bear in mind that the Soviets have hardened many more targets than we have, and we need the increased thrust and increased yield and accuracy of the MX. So, we just have a mathematical necessity of 100.

We understand the Congress thus far has put a lid of 50 in the Senate and 40 in the House, in action on the authorization.

What we will try to do, Mr. Chairman, is respond to the Senate request for some kind of different basing mode. Again, as General Vessey pointed out, the Scowcroft Commission after thorough examination recommended 100 and recommended they go into the existing Minuteman silos.

We examined very carefully and reported to you earlier in the year the remarkable breakthroughs we have had in being able to obtain greatly increased hardening. This is one way that might satisfy the feeling in the Senate Armed Services Committee that we need a different basing mode.

We have to point out that the increased hardening is very expensive, and it will take a number of additional years to do. The essence of deterrence is to have a retaliatory capability to inflict a cost the Soviets would find too heavy to bear.

That is why we feel it is essential that we have the targets they hold in greatest value covered by the MX itself. It is not a first strike capability, it is a retaliatory capability. It is having it there that provides the doubt in the Soviet mind that leads to deterrence.

So, the program for next year, though the budget, obviously, has not been addressed, will be to try to get back to a path that will lead us to 100 as quickly as the Congress permits.

MIDGETMAN MISSILE

Senator STEVENS. We will have to go into that and into the Midgetman, I think, after this budget process is over. I think we will try to take that up in the fall.

Secretary WEINBERGER. Midgetman is underway. The research is proving useful. The program is on schedule.

Again, it will be a very expensive program. It will be one launcher for one warhead. It is the number of warheads we need.

Senator STEVENS. In your statement you said the budget cuts may require general purpose force structure reductions or make wholesale terminations, deferrals or stretchouts of the conventional modernization programs.

LIGHT INFANTRY DIVISION

I and several other members of this committee have been quite interested in the light infantry division concept since the General outlined it to us several years ago. I think it makes imminent sense and has possibilities of substantial savings in the future, but it also has the prospect of a division in my State, so I get a little parochial here.

I should like to know, is the light division initiatives included in those subjects that you mentioned in your statement for possible stretchout for deferral or cancellation or termination?

Secretary WEINBERGER. Not cancellation, Senator, no. We don't know the amounts that will be voted now, but we are looking to see

what the consequences will be of reductions of the kind that you are talking about.

You can't take either \$19 or \$29 billion out of a budget without causing very real major changes and injury to the programs.

As far as the light infantry division is concerned, the concept is fully accepted and approved and endorsed enthusiastically. It is to be made up, as you know, of various readjustments of existing forces.

I would think that the principal result of a budget reduction on both the light infantry divisions would be a reduction in the amount of housing and facilities, the base structures that we would need to accommodate them.

I doubt if they would have to be stretched out.

General Vessey may want to go into this in more detail.

General VESSEY. I will simply point out that the light divisions were to be constructed out of existing Army end strength. There was to be no increase in the end strength.

However, cuts in the Army's budget will undoubtedly affect the light divisions because there are other things that the Army has to do in order to keep itself ready.

It is a little too early to tell exactly what the impact will be on the light divisions, but the Army has plans to go ahead with its plans.

MOBILITY OF LIGHT INFANTRY DIVISION

Senator STEVENS. Regardless of what happens to the light division planned for my State, I was very much impressed with the fact that this would be a major modernization effort on the part of the Army, that the other nations of the world that really are highly mobile have gone to light divisions, the Chinese in particular, and some of the Soviet divisions are now light divisions.

I would hope that that would be an Army initiative that is maintained primarily because in the out-years it does become very cost effective as we then get to a concept of having a greater mobility involved in training.

It has long-range implication. I would hope that you would keep us informed on that.

Secretary WEINBERGER. We will, indeed, Senator.

The concept, as you say, is a very promising one, not only for its value in and of itself, but also because it can be moved with less airlift and sealift and much more rapidly.

Senator STEVENS. We don't have any sealift left. It has to be airlift now.

Secretary WEINBERGER. For some of the reinforcement and other activities there will have to be some sealift. Basically the plans will go ahead, but they will be slowed.

As General Vessey indicated, the actual operations training, and I think particularly the housing and base construction required, would certainly be slowed.

Senator STEVENS. Thank you very much.

Senator PROXMIRE.

Senator PROXMIRE. Thank you, Mr. Chairman.

UNEXPENDED BACKLOG OF FUNDS

Mr. Secretary, in 1981 the amount of Defense Department unexpended backlog, the money appropriated to you by the Congress not spent, stood at \$112.8 billion. Today it is \$279.6 billion, almost the size of 1 year's Defense budget.

This accumulation of unspent money is one of the fastest growing items in the Federal budget. It seems to suggest that the Congress is giving you more money than you can spend efficiently.

My question is: Why this huge increase in the backlog compared to prior administrations?

Secretary WEINBERGER. Very simple, sir. Unspent simply means the money is not yet out of the Treasury. It does not mean it is not committed or that it is not required.

As you increase the activities of the Department, the investment activities, you increase the authorization. You have now quite a large amount of money that is unspent for the three carriers that are being built altogether. The money will be spent when the carriers are finished.

Once the authorization is made—and we appreciate very much the Congress authorizing two carriers in 1 year, because it enables us to save a little over a billion dollars on their construction—that so-called unspent accumulation will increase, but it does not mean it is not needed. It does not mean it is available for anything else.

It means that the funds are authorized and ultimately appropriated for a specific purpose, and the level of spending is a function of how rapidly the work can be done.

The fact that the unexpended balance increases is an automatic thing that follows the increase in the Department's activity and the Department's authorization which the Congress has properly voted over the years.

SPENDING OUTLAYS

Senator PROXMIRE. You have the money available so that if the House and Senate should arrive at either the Senate position or House position for the Defense Department, you would still have \$279 billion in additional money so that the outlays would not necessarily coincide with the decisions made by the Budget Committees to provide for an increase for an increase in defense spending outlays, that is, for the year 1986, equal to the nominal or the real expenditures in 1985.

Secretary WEINBERGER. Senator, as you know, the outlays are estimates only.

As to how much will be required to be spent in a particular year out of authorizations previously made or authorizations requested in the current year, we are very proud of the fact that our outlays have come in regularly well below the estimates—partly because we have been able through competition to get better prices on some of the items, ships, planes, and so on, where those estimates were included in the budget, and partly because we have made very good progress in reducing inflation. As far as the so-called unspent funds are concerned, those are funds that are authorized for very specific purposes, and a great deal of the \$270 billion you mentioned is fully committed for specific programs.

Senator PROXMIRE. What I am getting at is the extent to which the Congress has any control over the actual outlays that will be expended by the Department of Defense for 1986.

In other words, the outlays may go up substantially perhaps even though the Congress has made a decision they should not as far as obligation authority is concerned; is that correct?

OUTLAY ESTIMATES

Secretary WEINBERGER. It could happen. The experience in the last 4-years has been exactly the other way. The outlays have gone down and are well below estimates each year because, as I say, of the better management and the inflation savings. The outlay figures are purely estimates, as you know.

What we attempt to do is to estimate outlays as closely as we can. We use various formulas with ratios to the authorization, but outlay rates vary because some appropriations spend very slowly, some such as pay and allowances spend more rapidly.

Outlays are a matter of estimation. If we can bring them in below the estimate, we are delighted.

Senator PROXMIRE. CBO, I understand, projects outlays will go up sharply in the next 3 years. I am not criticizing you or blaming you. I am just saying that is the likelihood.

Although we have been talking in terms of budget authority, the actual outlays for 1986 are likely to be higher than we estimated.

Is that right or not?

Secretary WEINBERGER. That depends on which estimate you are talking about. Thus far the outlays have been lower than our estimates. It is quite possible that they could be higher than the estimates.

It is really a matter of how quickly the work is done, how rapidly various bills come in and are required to be paid. These are matters that are very hard to estimate in the beginning of a fiscal year.

Obviously, through prior year authorizations and prior year commitments and work in progress we will be spending a large amount of money, there is no question about it. I hope it will be less than the estimate, as it has been every year for the past 4 years.

THREAT BRIEFING

Senator PROXMIRE. Mr. Secretary, tomorrow this committee will receive a threat briefing and when asked about the threat briefing years ago one of our top experts on defense said.

"This identification of the threat to the security does not automatically require an expenditure in the defense budget to neutralize it. The Nation's total resources being limited, it is necessary to consider what is being given up to meet the threat. The defense budget must be seen not only in terms of what we must defend against, but what we have to defend. The more we take from the commonwealth for defense, the smaller it becomes."

That expert was Caspar Weinberger in the Nixon administration in the years you pointed out to us a little earlier we were holding down our defense and making some cuts.

Don't you think that argument makes a lot of sense today when we have the kind of debts we have, when we have serious fiscal problems?

Secretary WEINBERGER. It is a sound position aside from the misspelling in the last line. [Laughter.]

It is a situation, Senator, where you have to look at the year in which it was said. The identification of a threat doesn't automatically require an expenditure to neutralize it, because you may have added expenditures in previous years that will take care of that.

The Nation's resources are limited. It is necessary to consider what is being given up to meet the threat. There is no doubt about that.

On the other hand, it has been very well said and also by the author of that, that the Nation can afford what it needs to spend for its own security. There cannot be any higher priority.

There are indeed limited resources, but we have, I think, certain unalterable priorities and one of them is a requirement that we do enough for defense and that we do it in time.

When you have the kind of declines that we had all through the 1970's—it is not a partisan matter, it ran all through that whole decade—when you have those declines, you add an enormous burden, as we have tried to show on the chart, that has to be met by current generations.

There may be an element of unfairness in that. You can't argue about questions like that. You really have to see what is necessary to deal with the Nation's security.

In 1970 we had a very much better position with respect to the Soviet military power than we do now or we did in 1981. So, you cannot regard any of these things as static.

I would not retreat from anything said in that statement. I think a lot of the situation has changed and it is vital that we spend, as it was in 1970, what we need for the Nation's security.

Senator PROXMIRE. You may be right. I have great respect for you, Mr. Secretary, whether it is as Secretary of Defense or the head of the Office of Management and Budget or the head of HEW. You have served our country and served it well. Somehow, I like "Cap the Knife" better than I like the present title.

Secretary WEINBERGER. I wish I could follow that phrase now, too, but when you see what we have to do—it is fine to cut out unnecessary things and we have done a great deal of that. That is something you don't see. Senator. That is done before the budget gets up here. You don't see it.

There are a lot of people in the Pentagon who feel that that character you referred to is still very much alive and reasonably well. When we get to go—

Senator PROXMIRE. He is not working.

Secretary WEINBERGER. Yes, he is. When he gets to the Congress, it is the product. After all the excisions and surgical work have been done, and then we have a product which we obviously defend with what vigor is left.

BLUE RIBBON COMMISSION ON PROCUREMENT

Senator PROXMIRE. Blue ribbon commissions come and go, make recommendations and call for more study and even suggest continued investigations for another year.

Do you think the new Blue Ribbon Commission on Procurement will be different and, if so, why?

Secretary WEINBERGER. I think it will be very effective because Mr. Packard is extremely able and experienced and knowledgeable in a number of vital fields.

Certainly his intention, and he is not a man who is easily led from his intentions, is that the Commission not just put together a study to sit on the shelf. I think it is a very useful and very important thing, just as I thought it was so important to do the full audit of the Department.

Senator PROXMIRE. Knowledgeable, able, and he is also a defense contractor.

Secretary WEINBERGER. He has pretty well retired from that. His need for increased resources is extremely small now. [Laughter.]

Senator PROXMIRE. That never stops these fellows.

Secretary WEINBERGER. I don't think you need to have any worries of that kind with Mr. Packard. I am delighted he agreed to my strong invitation to take the chairmanship of it, because I think we need it.

We began this when we ordered the audit. Those audits have produced a great deal of very important results. At the same time we have had to run the Department, and we have had to apply the resources that Congress very generously voted.

I think it is very important to have an outside look at what has been done and what can still be done. I have great confidence in him.

Senator PROXMIRE. Thank you.

Senator STEVENS. I note our distinguished Democratic leader is with us. My good friend, if you want to interrupt the schedule at any time, we will be happy to yield the time to you whenever you want.

Senator BYRD. Mr. Chairman, I thank you. You are very gracious to offer me the opportunity.

I can't be here but a few minutes today. The others have been waiting. I can make my questions available at another time.

Thank you.

Senator STEVENS. Senator Rudman.

Senator RUDMAN. Thank you, Mr. Chairman.

I don't believe I need the full 10 minutes because the subject I want to talk to the Secretary and the Chairman about is one I have talked to them privately about. At the end of the process I would like to renew it again.

PERSONNEL REDUCTION

I introduced a program this year calling for some selected personnel reductions in indirect and nonsupport categories based essentially on a study which essentially shows out of 3.4 million people we have for the military, both civilian and military, ap-

proximately 300,000 have direct combat activity, including direct support people, 600,000 indirect support.

With a tooth-to-tail ratio that is, in my view, and in the view of many I have talked to, somewhat out of proportion.

Earlier this year—and there is a question at the end of this—earlier in the year the Secretary of the Navy Lehman recommended, on his own, dissolving two of his commands, the Naval Materiel Command and Naval Electronics Command.

Approximately a year and a half ago, the Army went through a very interesting and exhaustive study which I have looked at. It essentially realigned indirect support and, in some cases, direct support from heavy divisions and some logistics items. Created, out of no increase, two whole new light divisions which the chairman referred to.

My proposal—may have been made at the wrong time, Mr. Secretary and Mr. Chairman. This is a budget time, and unfortunately, I have found that in 5 years, rather than having a lot of light generated by congressional hearings, we have a lot of press releases from both sides and more heat than light. It becomes a very confrontational kind of atmosphere which, in my view, does not serve the country very well.

I do not say that critically, but as a matter of observation. The general response to this plan was almost as if I had suggested to take a teaspoon of sand out of the desert and the bureaucracy responded like the desert would disappear.

My question is this: What effort is being made at DOD, in your office and across the entire line of the military command, to find ways and means of taking people out of indirect support, out of logistics commands, out of all of those structures that exist, and either move them into the combat forces or in times of great fiscal difficulty find ways to take that reduction?

As you know, Mr. Secretary, your figure is higher than mine, but our figures indicate that 42 percent of this entire budget is people oriented. You use a higher figure in some of your testimony, but I am using the bare bones personnel and direct personnel related, 42 percent.

TOOTH-TO-TAIL RATIO IN ARMED FORCES

My question is: What are you going to do not in a confrontational atmosphere in the next year or so to see that we get a better tooth-to-tail ratio in the armed services?

Secretary WEINBERGER. That is a very good question and one we address constantly.

The figure is 42 percent this year. I don't know if it will come out exactly that way because we don't know what salary increases and other things will be voted, but essentially that is the amount of the budget that goes to personnel.

I am not ashamed of it. I think it is proper to devote that to the welfare of the people who do the fighting and do the supporting of those who do the fighting.

The comparable figure in the Soviet Union is 9 percent and that says a great deal about the difference between the two societies.

There has been a lot of suggestions that if we would go to a draft or something, we could cut salaries drastically and get that percentage figure way down. I don't want to do that. It is not necessary to do it. I think it would be very harmful to do it.

SUPPORT TO COMBAT RATIO

On the ratio of support to combat, I suppose anyone who has ever been in the combat arms, as you have and General Vessey has and I have, always thinks that support is getting too much and you need a lot more people with rifles. I still feel that way.

But you do have to bear in mind, I think, the complexity of a lot of the modern systems. You have to bear in mind the fact that to the extent that the military is used for pure support functions, then they are not available even though they are all trained—even the ones in support are fully trained for combat, so that they would be available to be moved into it.

We try to put as much as we can in the civilian categories and we try, obviously, to keep support as low as possible.

INCREASES IN FORCE STRUCTURE

We have had increases in force structure to some extent, certainly in the Navy. We have had increases in amounts of equipment and we have had much more complex equipment. We have taken a 5-percent and a two-percent reduction in the headquarters of the Department in successive years so that we are 7 percent down now in those areas.

We don't want to give up things like base maintenance, proper repair, proper overhaul, any of the things that affect the safety and the efficiency of people in combat. The simple fact of the matter is that the kind of equipment we have does require a substantial support group.

There were a great many operational backlogs and maintenance backlogs when we came. A lot of those had to be repaired and are being repaired. But people in the depot systems, people in the maintenance-repair function serve an enormously important role, particularly in tanks and planes and things of that kind that require constant and sophisticated maintenance.

PROCUREMENT

You spoke about the procurement area. That is certainly one that has grown and it has grown because of our insistence, first of all, on very large audits which involve large numbers of people, and, second, in our constant efforts to improve the procurement and to eliminate any possible waste in a period when we are expanding very rapidly, as the Department has.

So, your basic question was: Is anything being done about it? Are we examining this?

And the answer is that we are constantly examining it. We have taken a 5-percent and a 2-percent cut at headquarters. We are hopeful we can take more.

We don't want to get ourselves in a situation where as the Congress adds new, expensive, sophisticated and effective material, we

are at the same time preventing ourselves from maintaining, repairing it and keeping it useful. Those are all very big items.

General Vessey is thoroughly familiar with this over his years of service. If you will permit, I would like to have him respond, too.

INCREASED COMBAT CAPABILITY OUT OF CURRENT FORCE

General VESSEY. I will simply say, Senator Rudman, as you know, I have striven for that sort of thing all my military career to get more combat out of the force we have.

I think you can point to the Army today, for example. The last time we had as many divisions in peacetime as we have now, we had an Army of about 200,000 more than we have today. We have been able to do that in two ways.

One is getting more out of the support force that is extant and the other is the proper balance of Active and Reserve components.

I will say to you that it is important that we keep the right balance of support and combat. Today's battlefield finds a hazier distinction between support and combat. The battlefield is deeper, weapons have far longer ranges. So, the support people are far more involved today.

On a ship everybody that is on that ship is not classified as combat, but when the ship is in combat they are all in combat.

So, we need to keep the right balance and we need to continue to strive to get more combat capability out of the force. We do that by using those multipliers—intelligence, which is not classified as combat but is very important to the effectiveness of the combat force; good support; good mobility; good command, control, and communications.

We are generally in agreement with your thrust and that is to get more combat capability out of the extant force.

MAINTAINING READINESS

Senator RUDMAN. After having worked on this for about a year, one of the problems we have in studying issue is that not enough distinction is made between indirect support of combat units and all other support which, by your own figures, is rather enormous.

I for one believe, after having looked at it for some time, that serious reductions can be made in some of these activities. I will share with you some of the mail that I have, with the names removed, of people in some of these commands who are patriotic members of the Armed Forces. They, too, believe that serious reductions can be made in some of these activities.

What they hate to see is money being cut out of readiness, out of weapons acquisition, out of support in terms of pay and other elements, and the benefits for the Active Force. Many believe there is much waste and inefficiency due to the sheer size of the organization.

I hope you will look at this because, frankly, I don't think the Congress can get at that kind of problem. The problem can only be addressed by the people in the services themselves.

Secretary WEINBERGER. Senator, you have our assurance that not only will we do that, but we have been doing it and will continue to do it.

As I said, I never knew anyone in the combat arms who did not feel precisely the same way. That certainly includes me. We are all anxious to keep the support at the lowest possible level so that we can get the most effective and increased use of people in the combat arms, with a rifle, so to speak.

We can't do it to the point where we don't service equipment and have the equipment ready. You and I have precisely the same goal.

I think the point that General Vessey made that we have more divisions now with fewer people in support than we did before is the kind of progress that we are working toward and will continue to work toward since it is to everybody's advantage in the Department to do that.

I hope you have no worries that we mean to pursue it and are pursuing it as vigorously as possible.

Senator RUDMAN. Thank you very much, Mr. Secretary and Mr. Chairman.

General VESSEY. When you get out in the tank and it is not running, or in the helicopter and it doesn't fly, then the support people become very important.

Senator RUDMAN. Those are direct support. I am not talking about them, never was. The plan still is not understood by a lot of people.

I am not talking about direct support whatsoever. When I get a chance sometime, I will make sure you get a list of what I call indirect support. I don't argue that point at all.

Senator STEVENS. Senator Cochran.

Senator COCHRAN. Thank you, Mr. Chairman.

MILITARY RETIREMENT

Mr. Secretary, there has been a continuing discussion about the military retirement, whether or not the proposed reductions in that fund will adversely affect the retirement pay of current retirees and some of those who are contemplating retirement in the military.

Are those concerns well founded or because of grandfathering will it be 20 years or so in the future before there are any deficit reductions as a result of those proposals?

Secretary WEINBERGER. First of all, I should say retirement has not been exempt from our attempt to do what we have to do as inexpensively as possible.

I think it is fair to say that any perception that the retirement system is being, as they would say, tampered with or reduced or changed in material ways could have a very direct and immediate effect on both retention and recruitment. We are doing extraordinarily well with both retention and recruitment now.

I don't think anybody feels the retirement system is perfect or can't be touched. It simply can be examined. We examine it ourselves. We have a commission that looks at it on a regular basis and makes some recommendations.

I think we have to bear in mind that the retirement system has been tampered with. There has been a very substantial reduction in the benefits now compared with the benefits, say, 2 to 3 years

ago, primarily because of the failure to add the statutorily approved COLA's that normally went with the retirement.

We believe that there are ways in which the retirement system can be improved. We want to do that carefully. We want to do it in a way that does not create any turbulence or any feeling that there is any failure to keep commitments that people felt they had made to them when they enlisted or when they took commissions.

It is vital to keep the recruitment and retention of company and field grade officers at the levels where it is now.

We have made many reductions in the retirement system. I don't think those are appreciated; they have done it through repeated reductions or failures to add the cost of living increases, particularly in years when inflation is very high. We are very much more fortunate now with inflation low.

Yes, I think there are some things that can be done. We have to move very carefully because the effects of this even if it is prospective only and not retroactive are felt throughout the service. It is one of the things you encounter, I think, more frequently than anything else.

As I go around the world and talk to people at our bases all over, morale is very high, but almost the first question is: What are you doing to the retirement system?

Senator STEVENS. General Vessey, any comment?

MILITARY COMPENSATION SYSTEM

General VESSEY. I will simply reinforce what the Secretary said and point out what the entire military compensation system is designed to do—supposed to do—and that is to keep combat ready forces that defend the United States. That is its purpose. If we want to change it, we want to make sure we understand what is going to happen to the forces.

I can best illustrate the point by a trip that I was on recently in the Senator's home State, as a matter of fact, where I saw some Army Special Forces troops that were up there in an exercise, going through some very vigorous, realistic combat training.

When it was over, a young Special Forces sergeant came to me and said, "General, do you think that you are going to get people to come into the Armed Forces of the United States and be required to do what I am required to do in the way that I can do it with some of the nutty retirement proposals that I hear being voiced around in Washington? I am frank to say to you that I don't think you will."

What he was specifically talking about is having him stay in for 20 years and then deferring all his compensation until after he was 60 years old. He said you are not going to do it. It is like asking a guy to play major league baseball or football and telling him he can't draw his pay until after he is 60 years old.

REORGANIZATION PROPOSALS

Senator COCHRAN. There has also been some discussion about reorganizing the Joint Chiefs of Staff.

I wonder, General, in your experience as chairman, what your specific recommendations would be in that regard and would such a reorganization achieve any better control over defense spending?

General VESSEY. The duties of the Joint Chiefs of Staff under the National Security Act of 1947, as amended, are laid out in section 141, title 10, and every group that I know of that has ever looked at those believe that they are the right duties for the Joint Chiefs of Staff.

The most important thing to do is to have the Joint Chiefs of Staff perform those duties.

Now, organization can help sometimes. We were asked by the President and by the Secretary to look at our own organization 3 years ago. We did that and made some recommendations for improvements. The Secretary sent them to the President; the President sent recommended changes in the law over here. Part of those changes were enacted after a couple of years and part of them were not. I think that the Joint Chiefs of Staff are organized reasonably well to do the job that they have to do and there are some things that we have recommended to make some changes.

I think doing the work is more important than the organization.

BINARY WEAPONS SYSTEM MUNITIONS

Senator COCHRAN. You mentioned in your testimony that you were very happy to see the Congress approve the authorization for producing the new binary weapons system munitions. I was one of those who was very reluctant to support that authorization, but I did vote for it, thinking that what we were doing certainly wasn't working.

If we are trying to get the Soviets to the bargaining table and reach an agreement that would ban the use of chemical weapons, then what we have been doing is not effective because they are continuing to spend billions of dollars and do a lot of scary things in that area.

But I worry still about what you are going to do with the binary weapons that are produced under this new authorization. I was part of a group that was able to meet and discuss some of these issues with our NATO allies not too long ago.

I can recall one of the officials saying to us in response to a question about deployment of binary weapons, please don't ask us to do that. If the European allies don't want these weapons deployed on their soil, what are you going to do with them and how much of a deterrent will it be to the Soviet Union for us to manufacture these binary weapons, but yet not be able to put them into a position where they can be used?

BINARY WEAPONS AS DETERRENT TO WAR

General VESSEY. The first thing I would say to you, Senator, is if they are never built, they will never be deployed. That is a cinch.

Second, I sit on the NATO Military Committee. Every military leader there has urged that we go ahead with the construction of those binary weapons for deterrent purposes. They recognize the political problems in their own countries, but recognize that if the

weapon has never been built, it could never be deployed in time of war or before war to deter war.

If it has been built, it is already a deterrent.

None of us wants to fight a chemical war. We think the best way of preventing one is to have the Soviets understand that should we fight one, their troops will be at as great a disadvantage as ours will be.

I think the Congress has done a wonderful thing in eliminating one of the most significant vulnerabilities that our forces face. I hope we continue the program.

Senator COCHRAN. Thank you.

Thank you, Mr. Chairman.

Senator STEVENS. Senator Hollings.

Senator HOLLINGS. Thank you, Mr. Chairman.

UNOBLIGATED BALANCE IN DEFENSE BUDGET

Secretary Weinberger, what is the unobligated balance now in the Department of Defense.

Secretary WEINBERGER. I will have to get it, Senator.

Senator HOLLINGS. I am talking about the unobligated balance. I think it is in the \$55.7 billion range.

Secretary WEINBERGER. We may have different definitions here. We are talking about the unliquidated obligations?

You are right, the unobligated balance is \$51 billion and \$55.7 billion is the estimate for 1986.

Senator HOLLINGS. \$51.5 billion right now?

Secretary WEINBERGER. Yes.

Senator HOLLINGS. I think that makes Senator Proxmire's point. You still have \$51.5 billion in unobligated funds that will grow to \$55 billion. Based on historical spending practices, you will return a good portion of the unobligated funds to the Treasury, is that correct?

Senator STEVENS. Senator, some of that is no year money. Some of it does not expire in September.

Secretary WEINBERGER. That is right. If you will permit me, sir, a lot of that, while it is technically unobligated, in our internal operations it is earmarked for a number of different things.

For example, the procurement is \$40 billion of it and that is all allocated out to continuation of programs such as the F-15, B-1, F-16. The obligation of funds for these large programs is not done all at once. It is done as various contracts are let, and there are hundreds of contracts for the B-1, for example.

Picking out a couple of things here—

WASTE, FRAUD, AND ABUSE

Senator HOLLINGS. I have enough on that because we are wasting time on it. You still have \$51 billions over there unobligated.

Two years ago, since you want to make a big point about it, I sat down with Charles Duncan, the former Deputy Secretary of Defense, in Houston, TX. He turned to me and said, "You have been working on the defense budget. What have you done since the Reagan administration has come in?"

I said, they have already increased defense spending by \$100 billion.

He hesitated and paused. He said, "Now, I ran the Department of Defense and there is no way in the Lord's world we can spend \$100 billion in 3 years' time."

I said, I know that. It is like force-feeding a goose. It is throwing contracts out, you said, at the rate of 52,000 a day. That is where you get all the so-called waste, fraud, and abuse. Let us go to the waste, fraud, and abuse. That is why I am looking at the \$51 billion.

With respect to all of the contracts that are being questioned, I rather doubt it. I am looking into that and what I find, and you don't need a commission, is that when you are paid on a Defense Department contract, you bring your claims or your amounts to be compensated, then after study, the DOD comes back and says, we will disallow 7 percent, we will disallow 6 percent?

The point is that it is a system and a game more or less than the incentive that has been set up by the Department of Defense in the way they make payment on the contracts to put everything like the kitchen stove or the dog kennel or a trip for hunting in Georgia and all these other things, because add-ons seem to be playing a game. Now the rules are changing which is fine business.

Isn't that system that you pay a certain percentage, you come to your contract auditor on General Dynamics, let us say, start with this month's bill, they look at it and they disallow 5 or 11 percent of the amount submitted?

Is that the system?

Secretary WEINBERGER. No, sir. You may be talking about what existed before.

Let me make one point. I will provide a breakdown of the so-called unobligated balances so you will see that they aren't just sitting in a box somewhere. They are needed and will be used.

On this system question, the answer is that we have, first of all, greatly increased competition. We have reduced very sharply the number of cost-plus contracts which lead to the kind of problems that you have been identifying.

Senator HOLLINGS. I am talking about payments.

Secretary WEINBERGER. Well, payments under cost-plus contracts are payments that reimburse claims made by the contractors.

Payments made under fixed-price contracts, which is what we are moving to as rapidly as we can, are payments made on a regularly scheduled basis. They cannot exceed the amount in the contract.

Your cost plus contracts have all of the these items that you mentioned. What we have have changed is two things.

We have changed, first of all, a great many of the things that are allowable and are not allowable in overhead.

Second, we have required contractors to put at the bottom of their claim that they have read the regulations and that the amounts claimed are amounts permitted by the regulations and not otherwise. They do this under penalty of perjury just as you and I are required to do with income tax returns.

While the previous practice may well have been, and in some cases we found was, simply to take a kind of percentage off the

claim and not audit it very carefully, now we audit it very carefully and we make the contractors audit it, themselves, before they file it.

I think this has reduced and will reduce a lot of the claims problems. The main point is to get away from cost-plus contracts and get into competitively awarded fixed-price contracts. The you eliminate a great deal of this whole problem.

DEFENSE CONTRACTS

Senator HOLLINGS. Very good, I am glad to have that oath to be given. It is quite obvious—you have 52,000 contracts a day, of course, you are not letting contracts, I take it, on Saturday and Sunday, but you are getting 13 million to 14 million contracts a year to be audited. That is physically impossible.

Secretary WEINBERGER. It is about 15 million, sir.

Yes, it is like the income tax. You can't audit every return, but you can impose very severe penalties on people who try to take advantage of the fact and hope they are not going to get audited.

I agree with you. I don't think all contractors are dishonest by any means. We are trying our best to ensure that they have the opportunity to stay honest.

ACCELERATION OF MIDGETMAN

Senator HOLLINGS. With respect to accelerating the Midgetman, what is the schedule now?

Secretary WEINBERGER. It is on schedule now. I think the estimated initial operating capability is in the early 1990's. It is being developed along with the mobile aspects to it as originally planned and within the budget set aside for it.

As I mentined before, it will be a very expensive weapon system because it will be one warhead with each missile, which is, of course, the point of it. It is on schedule, it is within budget.

Senator HOLLINGS. What is that schedule?

Secretary WEINBERGER. I think the IOC is 1992.

Senator HOLLINGS. Seven years from now, it takes that long?

TRIDENT II D-5 MISSILE

Secretary WEINBERGER. Yes; the D-5 missile alone for the Trident II submarine will not be ready until 1989 and that was started in 1980. These things take a very long time, Senator.

Because I felt the same way you do, I inquired about the prospect of speeding up the D-5 by 1 year. The cost of doing that was \$1 billion. I said that is too much. We will have to take it as it was originally scheduled.

The development of a whole new missile system, particularly a mobile system such as the Midgetman is supposed to be, is a long and expensive process.

IOC SCHEDULE ON STEALTH BOMBER

Senator HOLLINGS. The same with the Stealth, what is its scheduled IOC?

Secretary WEINBERGER. I would like to talk to you about that in a closed hearing.

Senator HOLLINGS. Very good, sir.

With respect to the matter now that Senator Rudman was talking about, Mr. Secretary, when you get right down to it, it is not just tooth to tail. It is the proposition that we here cut our staffs 10 percent at the beginning of the Reagan administration.

In contrast you hired 100,000 additional civilians while we were cutting staff 10 percent. Both military and civilian, it is gridlock.

COMMAND PROBLEMS ON NEW JERSEY

I understand that when the *New Jersey* was operating off the coast of Lebanon, it had to operate through seven commands and the problem that arose was one of gridlock. The DOD is top heavy with administrative staff, it is cumbersome, your Defense Logistics Agency, Defense Communications, the Office of the Secretary, they are all support personnel growing by large amounts annually.

There is a great feeling by many of us working in the defense area that what you really have is gridlock, you have more Generals than you had in World War II. You have more civilians than you know what to do with and you keep on adding over there.

We don't see, other than the screwdriver, which makes the headlines, a tendency on your part of simmering down. I have been told by competent people in your Department of Defense and at least one Secretary if you cut almost all those staffs immediately in half, you would be able to make it. It would bring about efficiencies all the way, both military and civilian.

What is your comment?

Secretary WEINBERGER. My comment is that I don't know anyone who has more interest in getting along with fewer people than I do. We have nothing to be gained by coming in with unnecessary requests or requests for additional people we don't need.

You have to bear in mind, as I am sure you do, that there has been a very large expansion in defense in the last 4 years. It is futile to vote a lot of money for a lot of needed weapon systems and not have the people to man and support them and to take care of the necessary additional functions caused by this very large increase.

It is perhaps the only department of the Federal Government that has had increases of this size, both in budgetary authority and outlays and in personnel.

We have taken a 5 percent and a 2 percent cut in the various establishments in the Defense Department in successive years and we were glad to do that. I can't tell you it didn't make any difference, but we did take those. We would, obviously, look for more.

I think the idea that we have more people than we need or we have more people than we know what to do with is greatly exaggerated and does not accurately state the situation.

As for the ratio of Generals and Officers in the military, General Vessey, I think, is perhaps more competent to speak about that than I am. I will be glad to have him mention that.

General VESSEY. I don't have the chart with me, but I will provide it to you. It is a study that was done on the armies. For exam-

ple, our ratio of Generals to forces is one of the smallest in the world. It is smaller than the Soviets.

[The information follows:]

INTERNATIONAL COMPARISON ON RATIO OF GENERALS

Country	Army	Air Force	Naval components ¹	Overall
United States	1/1895	1/1755	1/2420	1/2030
Soviet Union	1/1161	1/1500	1/668	1/1074
Israel	1/1875	1/3330	1/1100	1/2017
Federal Republic of Germany	1/2868	1/1677	1/1097	1/2357
United Kingdom	1/843	1/571	1/926	1/753
France	1/1426	1/1437	1/209	1/1392
Canada				1/740

¹ Several other nations have no distinctions as the United States does between a Navy and a Marine Corps as services.

CHANGE IN MODERN WARFARE

General VESSEY. I will say modern warfare has changed. The ratio of leaders to lead had grown because of technology and what that has been able to do in affecting the whole battlefield. An infantry squadron now covers territory that an infantry company would cover when I first went in the Army. All of that has to be taken into consideration.

I will tell you that we work very hard to try to keep that ratio at the right level. It may not be right, but it is not because we are not trying to keep it right.

Senator STEVENS. Your time has expired.

Senator SASSER.

Senator SASSER. Thank you very much, Mr. Chairman.

INTERDICTION ACTIVITIES

Mr. Secretary, I have read your comments on the use of the military in drug interdiction activities with great interest. I think that this committee will agree that there are areas where the military can assist in the drug interdiction effort.

But you point out, I think quite accurately, there are certain limits which must be placed on certain military actions. You are reported as saying and I quote you, according to the paper:

"The historic separation between military and civilian spheres of activity is one of the most fundamental principals of American democracy. We strongly oppose the extension of civilian power to our military forces."

Mr. Secretary, I want to commend you for that statement. I think it is an exemplary statement for a Secretary of Defense to be making. I want to offer you this opportunity to elaborate on your feelings on this particular matter if you should desire.

Secretary WEINBERGER. Senator, I appreciate that very much. That is a completely accurate quotation and it is the way I feel.

We certainly do not want to use the military for civilian police functions or civilian law enforcement activities. I personally hope very much that continues.

We have had a lot of desire, and we have complied with it to the extent we can, for our help in interdicting drug traffic. It is in everybody's interest that we do as much as we possibly can, consistent with our basic historic role of not having civilian enforcement functions.

For example, we have supplied and shared intelligence. We have done observation work on ships in cooperation with the Coast Guard. We have worked with a number of countries where a lot of the drug traffic originates to help them and share our experiences with them. We would certainly want to continue this.

We have two problems. One is the one you mentioned which is the overriding one. And that is not getting into the law enforcement business. I think there are some proposals that would clothe the Department of Defense with arrest authority, police authority, things of that kind. These proposals arise from a natural frustration and unhappiness with the size of the drug traffic. But, we don't want to react in ways which would be wrong and we think some ideas about the military's role in the campaign against drugs are very dangerous.

The other problem is that our primary mission is to be always ready to deter or to stop any kind of potential attack or aggression against the United States. This requires constant training and constant readiness of the planes and ships and some of the facilities that might be used in interdicting the drug traffic.

I think our best role can come via foreign military assistance or in the training we can do with forces of other countries to work with them, to share with them some of our experiences and to indicate to them some of the real problems about it.

Bear in mind the international drug traffic finances and supports and makes available terrorism on an international scale. The profits from it are enormous. It is in our interest to do everything we can, both as a Department and as a Government to try to stop it.

I do think it would be very dangerous and undesirable to give our people police powers, arrest authority, and require them to work directly with local police or anything of that kind. We will do anything we possibly can and are doing a great deal to help carry out specific law enforcement requests that involve the opportunity to be of assistance to military exercises, maneuvers, training, things of that kind.

The line can get blurred pretty easily. I would like to watch it very closely. I think it would be very dangerous to have the military in the United States in any kind of civilian law enforcement activity or even close to it.

Senator SASSER. While you remind us in our praiseworthy zeal to do something about this poisonous drug traffic coming into this country, that we don't break down the traditional line that is over 200 years old in this country between civilian authority and military power, I think it is something we ought to be aware of.

PERCENT GROWTH LINE IN BUDGET

Mr. Secretary, in your statement I noted with some interest you were indicating your so-called 2 percent growth line beginning in 1964. In plotting out that chart, I note that in 1983 we surpassed

the budget level authority for military spending that we had at the height of the Vietnam war.

Is that correct?

Secretary WEINBERGER. Yes, in constant dollars, that is correct.

Senator SASSER. So, in constant dollars we are now spending more in our defense budget approximately, in 1986 constant dollars, as I look at your graph, approximately \$30 to \$35 billion more than we spent in fiscal year 1985 than was spent in fiscal year 1968 which was the height of our spending for Vietnam.

Secretary WEINBERGER. It is more. But let me point out to you that in Vietnam very, very large amounts were spent in consumption and in use of ammunition and in a very real war, one of the largest we had engaged in, one of the longest, and it did not add to military strength.

What we are spending now is in acquisition and really recovery in many ways from that experience in regaining readiness, regaining war reserve stocks, adding much more sophisticated, complex, and expensive and much better equipment and doing it as rapidly as we are permitted to do.

I think the comparison with the amount spent in Vietnam is not a valid one because of the totally different items involved and because of the need now not only to do what we have to do in conventional forces, but, as I mentioned, to undertake all of the modernization necessary in the strategic programs that are required for the triad—submarines, missiles, and bombers.

The other thing I think we have to bear in mind is that nondefense spending is much higher than it was then, too.

Senator SASSER. Mr. Secretary, I think it ought to be pointed out, too, with regard to Vietnam we were not only arming and equipping U.S. military personnel, but we were also arming and equipping the Army of South Vietnam at that juncture which, as I recall, was an Army of at least a half million men—the Chairman of the Joint Chiefs of Staff could supply us with accurate figures—we were arming and equipping two armies in South Vietnam.

DEEP STRIKE WARFARE DOCTRINE IN EUROPE

Mr. Secretary, to shift gears for just a moment, General Rogers, our NATO Commander, has testified in favor of adopting a new deep strike warfare doctrine in Europe to strengthen our conventional deterrence, and, quite frankly, I applaud General Rogers' initiative in that regard.

I think we must shift away from our old strategy of attrition which served us so well in World War II, but I have some question about whether or not we have the flexibility to adopt a new deep strike warfare strategy, and one of the reasons I question our flexibility is the problem of interservice rivalry.

Now, there are some commentators who indicate that the Grenada invasion, although a relatively small military undertaking, portrayed some glaring examples of poor planning and lack of coordination in the three services.

Last year the Army and the Air Force adopted 31 joint initiatives, a step in the right direction, but if my information is correct, hardly any of them have been adopted.

For instance, all helicopters assigned to special operation missions were to be relinquished by the Air Force and turned over to the Army. Well, that still has not happened.

I am wondering if we are going to have the flexibility with the rivalry among the three services to develop a so-called follow-on forces attack strategy.

My question to you is this, sir: What are you doing to assure that the services end this traditional rivalry that threatens our future strategic initiatives according to scholars who study this subject?

Secretary WEINBERGER. Senator, what we are doing involves two or three things through the budget process.

We are also doing some things through the Joint Chiefs process which I want General Vessey to discuss with you in just a moment.

BUDGETING OF THE VARIOUS SERVICES

In the budget process of the Department which is, incidentally, the same process that I used when I was at OMB, we have all the services and all the agencies of the Department come in and made a showing as to why they feel it necessary to have particular expenditures.

In that process one of the things we try to do is to catch and eliminate anything that would be a duplicate program. The different services have different missions. They require different equipment. A lot of what they require can be standardized and is.

I think our internal departmental budget process catches a very great deal of that. You spoke about the helicopters. General Vessey is the leading American authority on helicopters and will be able to talk to you about that.

I am very familiar with programs that the Joint Chiefs have established—committees in which they review the requests of all the services for programs that are similar in nature—which have been able to eliminate a great many of them.

So, we are entirely on the alert for this. I don't say that we are perfect or that we have finished, but it is a problem that we address each year.

In the budget process we do eliminate a lot of requests for specific service programs. We have had a lot of coordination.

General VESSEY. First, Mr. Secretary, thank you for the compliment, but I would not characterize myself as the leading American expert on anything.

Let me say to you, Senator Sasser, that I served the last 9 years and a fair amount of time before that in joint types of jobs. The greatest rivalry that I see among the services is on the football field in the fall between the academies.

There is another little rivalry where the Joint Chiefs meet for a golf game once a month and they argue about what length of putts they should give each other.

I want to tell you that the Joint Chiefs of Staff themselves have not only supported but also have driven this deep battle concept, and not only for our own forces, but for our NATO allies because we think it is absolutely essential to success on the battlefield in the future. When I say battlefield, I mean land, sea and air.

The Joint Chiefs themselves have examined in detail the programs of each of the services—and I mean the Joint Chiefs, not staff officers but the Chiefs themselves—have examined those programs to see where there is overlap and duplication, and where it might be eliminated.

JOINT REQUIREMENTS MANAGEMENT BOARD

We set up an outfit called the Joint Requirements Management Board and we put the No. 2 man in each service as a member of that board to look at it.

Specifically we looked at the things that are required for this deep attack program. We made a report to the Secretary showing him how he could consolidate certain programs and save about \$4 billion, and how he could improve the programs in order to make those programs fit the deep attack concept.

I just want to tell you that we not only have the flexibility, but we have the brainpower and the enthusiasm to make that concept work.

You cited problems in Grenada on the coordination among the services. I will tell you those weren't problems of coordination among the services. They were problems in gluing together an operation in about 48 hours' time, drawing forces from the far corners of the Nation because they were the only forces that could get there in time.

Grenada was a demonstration of the ability of our forces to work together in a very short period of time. We learned some things that we need to do better. We have taken those in hand and instituted the necessary training in order to do that.

There are other things that can be done and we will do.

Senator STEVENS. Senator Johnston.

Senator JOHNSTON. Thank you, Mr. Chairman.

SDI PROGRAM

Mr. Secretary, you testified a moment ago with respect to SDI that it is a program, and I think I quote you exactly:

"It is a program designed ultimately to make nuclear weapons obsolete by destroying incoming missiles outside the atmosphere."

Secretary WEINBERGER. If the research proves that is feasible. At the moment it is a research program.

Senator JOHNSTON. Now, this would tend to say that it is a research program designed to support what I would call astrodome theory, that is, to make the whole nation immune to nuclear attack.

Secretary WEINBERGER. From the intercontinental or intermediate range missiles, yes, in the sense that it is designed to protect the continent because it is designed to destroy these missiles outside the atmosphere and before they get into the air or to any target. It is not a point defense system.

Senator JOHNSTON. I will say there are not too many Senators who have a lot of faith in the astrodome theory. I think most Senators, this one included, regard it as being a pot of gold at the end of the rainbow, although you don't find the pot of gold at the end of

the rainbow, you have to put up a pot of gold before you try to find it at the end.

There has been a lot of serious criticism as to the lack of focus of the SDI Program, a feeling it ought to be more carefully designed as something that some of us regard as doable, something like point defense.

My question is: If instead of looking for the astrodome theory, you went to a point defense, how much could you reduce in the first year the \$3.7 billion or, over the 5 years, \$25 billion?

Secretary WEINBERGER. Senator, I would have to go back and see if we can find a specific figure to which it might be reduced. I would be surprised if we could because we are not trying to build an astrodome or anything of the kind.

What we are trying to do is to get a system, ground-based or space-based, that will destroy incoming missiles before they get into the Earth's atmosphere.

POINT DEFENSE

Senator JOHNSTON. If you had point defense, you would not destroy them in the lift-off phase?

Secretary WEINBERGER. We have spent a fair amount on point defense. We developed Sprint and Spartan, a system that was going to be installed in Grand Forks, ND; we put \$1 billion in it.

The decision was made in the 1970s not to deploy it for a number of reasons.

Senator JOHNSTON. Point defense is almost doable now?

Secretary WEINBERGER. Not effectively. That is the point. Point defense—at the moment, it may be that it could be improved—at the moment we do not believe we could get much more than 50 percent effectiveness.

That is one of the leagues in which 50 percent average is not very good.

Senator JOHNSTON. You don't expect with research you can do much better?

Secretary WEINBERGER. Possibly. I think the objective is too limited, because what you have with point defense—

Senator JOHNSTON. What I am getting at, on point defense your experts are telling you that the best you can do is probably 50 percent, given time to do the research.

Am I correct?

Secretary WEINBERGER. I don't have any reason to doubt that we can do a bit better than that.

Senator JOHNSTON. How much better?

Secretary WEINBERGER. I really don't know—I think it could be improved maybe 5 or 10 percent.

The point I want to make is your means of destruction is nuclear. What you are doing is destroying nuclear missiles with nuclear missiles. You are spewing a great deal of nuclear debris over the point you are defending.

Senator JOHNSTON. You cannot use nonnuclear weapons for point defense?

Secretary WEINBERGER. We have not developed them yet. What we are trying to do with strategic defense is to develop nonnuclear

means of destroying missiles outside the atmosphere of the earth so you don't have this problem.

Senator JOHNSTON. Do I understand you to say that a point defense is probably not feasible, that if we had a program, SDI Program, in which a point defense was the goal, that you would probably recommend against that because it wouldn't work?

Secretary WEINBERGER. I would recommend against it because I think it would divert us from the ultimate goal, which is so much more hopeful for the world. The idea of simply trying to defend a particular target or—

Senator JOHNSTON. I understand you want to do more, but is it nonattainable, in your view?

Secretary WEINBERGER. I would not be able to tell you it is not attainable, no. I have enormous faith in our technological ability to solve very difficult problems. But I think it is too limited and it carries with it, as far as we can tell now, very substantial disadvantages.

Simply defending at the point, the terminal phase, has very real disadvantages.

Senator JOHNSTON. A colleague of mine, Senator Nunn, during the debate said, I support the \$2.9 billion, I think it was, but he said I criticize the program because it is not focused enough, it is not limited enough. And if he or other colleagues later would want to limit that program to a point defense as opposed to the astrodome—is there anything in between, by the way?

Secretary WEINBERGER. What we have tried to do is to make sure in the research that we hope to make the system leak-proof. That means we would address the boost phase, post boost phase, and mid course phase and terminal phase.

We want to assure if something breaks through or leaks, that we can also destroy that.

MODIFIED POINT PROGRAMS

Senator JOHNSTON. Is there anything between a point defense and astrodome?

Secretary WEINBERGER. The research is designed to give us—and I don't know where the term "astrodome" came from—but what we are trying to develop is a system that will destroy the missile outside the Earth's atmosphere with very great reliability.

I think we can do that. Anything in between, I don't know whether you mean some missiles would get through or we would destroy them inside the Earth's atmosphere.

Senator JOHNSTON. With point defense you wouldn't deal with the lift-off phase, would you?

Secretary WEINBERGER. The present kind you have would not. That is one of our objections to it. It does not engage it until it is too late to do anything about it if it misses.

CLAIMS ON DEFENSE CONTRACTS

Senator JOHNSTON. We had a session with Secretary Lehman the other day where we were talking about defense contracts and the peculiar provision of the Tax Code that says that a defense contrac-

tor does not realize any income until the contract is finished and all the claims are complete.

He pointed out that this is a multibillion dollar loophole in the Tax Code in that some of these contracts which run on for years, a contractor will literally have billions of dollars in cash-flow, will have multimillion dollars in actual profit, but won't have to realize that until the Claims Committee and the court finally decide on all the claims.

Now, that was not included in the President's tax simplification plan, as I understand it.

Would you comment on that?

Secretary WEINBERGER. I am all for eliminating that. That is the so-called completed contract method of accounting. It does enable companies to defer payment of taxes over a number of years on a number of large sums. The Department has commented many times—I have commented on it very unfavorably and we were all in accord on it.

I am not familiar with the terms of the current tax proposal, but the completed contract method of accounting does permit the deferment of payment of very large sums for quite a number of years.

Senator JOHNSTON. For example, what is the current cost of a Trident submarine, \$4 billion?

Secretary WEINBERGER. No. I can get it for you exactly. It has been coming down, actually.

Senator JOHNSTON. A billion-eight, I am told.

Secretary WEINBERGER. It started out at a much higher figure. It is now much lower.

Senator JOHNSTON. How long does it take to build one?

Secretary WEINBERGER. Trident submarines take about 7 years.

Senator JOHNSTON. During that 7 years, while one billion-eight has been paid, do I understand there is no income paid during that time?

Secretary WEINBERGER. I don't know about that specific case, but that generally is the way the system works. I wouldn't want to testify that that is the way it has been applied in the Trident case.

That, basically, is the way that the completed contract method of accounting has worked.

Senator JOHNSTON. Mr. Secretary, I don't want to go off, and I am sure my colleagues don't want to go off, half cocked on that issue. There may be some national defense objective which is achieved by that. Your answer here is in accordance with what Secretary Lehman said and others have said.

What I wish you would do is think if there are other reasons, national defense reasons, why it should not be changed and let us know.

Secretary WEINBERGER. There are a lot of reasons that are given, Senator, and a lot of them have merit.

It enables work to be done without a lot of financing charges that would have to be passed on to the Government.

It enables the work to be done on a higher scale because contractors have more capital available, and so on.

Senator JOHNSTON. Your advice, everything considered, is to change it?

Secretary WEINBERGER. Yes, because I think that the impact on public opinion, with the need for public support of our defense program, is very unfortunate. If there is no payment made—I don't know if full payment need be made, but elimination of any tax payment for certain contracts for a large number of years puts an unfair burden on the Government.

Contractors will tell you they think it puts an unfair burden on them to have to pay before they are fully paid. We do have laws that require us to make very prompt payment.

So, I think there is a balance somewhere in between. We would certainly want to do what you suggested—the fair thing to do—which is to look up the argument on both sides.

I am familiar with the problems generally, and the payment of no tax at all, I think, is not something that I would support.

Senator STEVENS. Your time is up. Thank you very much, Senator.

UNOBLIGATED BALANCES

Mr. Secretary, just to make sure that the record is clear here on this unobligated balance problem, for September 30 it is my understanding that shipbuilding moneys are involved for a minimum of 5 years; procurement, roughly a 3-year period; and research and development, 2 years.

I would like to have you get your people to put in the record what will be the unobligated balance account in these various categories of shipbuilding, procurement, R&D and any other moneys as of September 30, so that we can know what we are talking about.

In all probability we will be marking up this bill right about that time again. I think this subject of unobligated balances is liable to complicate the bill this year unless we are accurate about what we are talking about.

Secretary WEINBERGER. We will be glad to do that. It has remained level for the last 2 years at about \$51 billion.

We also have an allocation of those funds that at the appropriate time in the contract procedure would be obligated.

We will be glad to put all of that in the record. I certainly wouldn't want any impression going around that we have a lot of money that we don't know anything about.

Senator STEVENS. I made a mistake about 7 years. It is 5 years. [The information follows:]

"HOW DO WE PLAN TO USE OUR CURRENT UNOBLIGATED BALANCES?"

FY 1986 Budget Request
Unobligated Balances
(\$ Billions)

	FY 1984	FY 1985	FY 1986	FY 1986 Increase
Military Personnel	-	-	-	-
Operation and Maintenance	1.0	1.0	1.0	-
Procurement	39.9	40.1	43.3	3.2
RDT&E	2.7	2.4	3.1	.7
Military Construction	7.9	3.8	4.2	.4
Family Housing	.3	.3	.4	.1
Other	3.8	4.0	3.7	-.3
Total	51.6	51.5	55.7	4.2

- O Major procurement programs currently under contract through FY 1984, which have amounts yet unobligated are listed below. It should be clearly understood, however, that these amounts, which were unobligated at the end of FY 1984, are intended to complete programs currently under way. If these balances were to be diverted to some other use, the Department would be forced to terminate existing programs, pay termination liability costs and dispose of, perhaps as scrap, (as was done with the SST) the incomplete components, subcomponents, parts, etc.

F-16	1.6
F-15	.9
B-1B	.9
F-18	.5
AV-8B	.4
Aircraft Modifications	2.3
Helicopters	.5
Other Aircraft	1.1
PEACEKEEPER	1.2
Air/Ground Launched Cruise Missiles	.6
TRIDENT Missile	.2
PHOENIX Missile	.3
Standard Missile	.4
Other Missiles	1.0
AEGIS Ships	3.2
CVN Nuclear Carrier	2.1
TRIDENT Submarines	1.8
SSN-688 Submarine	1.0
FFG Frigates	1.2
Other Ships	1.7
M-1 Tank	.8
Bradley Fighting Vehicle	.3
Other Tanks	.1
DIVAD Air Defense Gun	.5
Weapons/Torpedoes	.4
Munitions	.6
Spares & Repair Parts	2.6
Support Equip	2.3
Comm & Electronic Equip	2.8
Trucks & Other Vehicles	.8
Other Production Charges	.4
Other Programs	5.4
TOTAL	39.9

SPECIAL PAY AND ENTITLEMENTS

Senator STEVENS. Mr. Secretary and General, we are pleased to note in the first half of 1985 all of the services have met their recruiting and retention and reenlistment rates are stable, attrition is lower than normal and you are to be congratulated for that.

Having said that, let me get to something that I am starting to have a little fetish over, I guess. We have \$3 billion in special pay and allowances in the bill for 1986. The permanent change of station request is \$3 billion.

In addition to that, \$6 billion for special pay for military personnel under entitlements of the past. We note that the authorization committees in the House and the Senate are creating new entitlements that will appropriate almost \$1 billion starting in 1986. That would make that level \$7 billion in the 1987 bill if all these things come through.

TRAVELING DURING SHIP OVERHAUL

There is additional money for traveling when ships are being overhauled. There is a revised dental officer pay program, submarine pay targeting, career sea pay, demolition duty pay, diving duty pay, experimental stress pay, family separation allowance which is a new program initiated at \$42 million.

It reminds me of the variable housing allowance that started about that level and is now \$1.1 billion after 3 years.

The night deck duty pay, crew and noncrew flight pay, which is interesting—I don't know how you can get flight deck pay if you are not a crew member—hostile fire pay, parachute duty pay, toxic fuels and propellants pay, basic allowance for quarters, VHA at sea and field, PCS reimbursement for permanent change of station, which under these new changes will add a quarter of a billion dollars to that account, burial travel expenses, death gratuities, dislocation allowance, which is an increase of \$120 million in that account alone.

Survivor benefit program, another \$200 billion, a new program of dental care, the CHAMPUS Program, \$105 billion, catastrophic loss, again this is a CHAMPUS Program, of \$27 million.

We have new discretionary benefits, selected reserve incentive pay, pay for duty in certain places—this is an increased benefit—a nuclear pay enhancement to those dealing with nuclear weapons, increased pay for leave travel, for reserve incentive, and for the Navy reserve, the TAR bonus program.

As I said, given the current situation that we don't need these for recruiting objectives, retention, reenlistment, attrition is lower than anticipated, how can we justify, at a time when we are holding the line on civilian pay in your Department, civilians will not go up, there will be no increase for civilians at all, how can we justify another billion dollars in military pay and allowances?

Secretary WEINBERGER. Senator, I don't think it will run to another billion dollars, but passing that for a moment, let me just say that I think the two statements you made really tie together.

You complimented us very generously on the recruitment and retention figures, which are higher than they have ever been and

which have maintained a sustained growth now for 4 years. Each month the situation has been better than the last.

It is always hard to isolate complete causes and relate them to results. I have to think that the reasons we have such good personnel recruitment and retention rate, that we are getting such highly qualified people in—with 93-percent-high-school-diploma graduates and far higher IQ's than we have had before—all of this relates to two things.

It relates to the fact that the public appreciates the work that is done and values it and that the men and women in uniform are being given the proper treatment in every way that they deserve—there is the perception that while the salary scale is certainly not in any sense lavish, there are for these 2.1 million men and women in uniform a Government that is cognizant of the needs that they encounter when they move.

It is very rare that this full compensation for any of the moves these families have to make usually every year or two—

REVIEW CHANGE OF STATION POLICY

Senator STEVENS. Why don't we review that policy? Why do they move every year or two in this time when money is so tight?

Your budget now has been reduced \$19 billion, but at the time it was reduced \$19 billion you are increasing pay and allowance by almost \$4 billion. So that you really have an effective reduction of \$23 billion in terms of new equipment.

Secretary WEINBERGER. With the pay programs, we have promised them over the years to keep up with inflation, and we need a higher pay increase than is being approved.

We recommended 3 percent effective July 1 of this year. The Senate voted 3 percent in October and the House, I think, 3 percent in January.

Senator STEVENS. Mr. Secretary, I have not seen a new entitlement for the military turned down now in the 4 years that I have been chairman of this subcommittee. People who vote against your weapon systems salve their conscience by voting for all these new entitlements for people in the military.

As a consequence, we are losing the modernization program, but we are going to get a very well paid military, there is no question about that.

Secretary WEINBERGER. We are going to keep a volunteer force with high morale and with confidence in the Government. We believe that is essential.

We also believe the weapon systems that are being turned down are essential, as indicated in my opening statement.

Senator STEVENS. How do you justify that in terms of the treatment of civilians?

Civilians are not getting pay increases this year. They are the ones auditing these contracts. They are the ones that are doing the work that is being criticized. They are not getting increased compensation.

Secretary WEINBERGER. Our original recommendation was for an increase for them, too. We do have a situation in which the reduction of the deficit has become the highest priority.

When you have very large accounts that spend in the first year, which is what personnel payments are, you do have a natural tendency to make them targets for major reductions. That is what has happened.

Senator STEVENS. Let me go to a couple other things.

AMRAAM PROGRAM

I want to talk to you a minute about the review you made of the AMRAAM program. You decided to accept a 10 percent cost increase and continue that program at a \$7.5 billion level. It is our judgment and there are many people here who believe that program is unaffordable already.

Do you plan to put a cap on that program?

Are we correct in understanding that you are just going to go ahead with a full development and production of AMRAAM at the increased cost?

Secretary WEINBERGER. No, Senator. What we have done is look at it very carefully. We have ordered a full audit, which should be available in August. Following that we will make a recommendation to you.

The AMRAAM program is a good example of a capability which we have to have, which we should have had earlier. As you know, it will enable a pilot of a fighter plane to fire his missile against another plane and turn away so that he can engage otherwise or be far safer.

The present system requires him to follow that missile in. It is a capability we need. It is far more accurate, it will do the job it has to do against the increasingly sophisticated equipment of our opponents.

It has been a disappointment to me in the sense it has continual cost overruns. We are at the stage now where we have to do one of two things.

We can either cancel it, which will leave us without a capability we need. We will then have to start over and we will lose all the years and all the dollars sunk in it.

Or we can try our best to get the cost down and not accept any increase—perhaps delay the quantities somewhat or do any one of a number of things—but at least get it on line.

Senator STEVENS. Keep the original program objectives cost-wise and accept the production limitation due to the increased cost?

Secretary WEINBERGER. The original prediction of cost made several years ago was based on an undeveloped missile. It was a concept only.

What we have, of course, is that as these things get into development, there are all kinds of problems that they run into.

The detailed audit will be delivered to you—I think it will demonstrate that we need the capability, that we have made major reductions in some of the increases that have been talked about. We are not going to pay the high prices.

We do have to decide whether we want to cancel the whole thing because of the increases, or whether we want to continue with it and try to keep the cost down.

DIVAD ALTERNATIVES

Senator STEVENS. Last year we put the DIVAD on hold. We understand there is a 30-day congressional review period that is going to begin now around our August recess and you have directed the Army to evaluate at least three alternatives to the DIVAD, one of which is the improved Chaparral system.

I know the General is very interested in this. We thought that that decision was sort of final. DIVAD seems to be something which has been a troubled system, yet it comes back.

Is it now your intention to go ahead with some alternatives so that if DIVAD does not prove to be an acceptable weapon system, that there will be something else to fall back on?

Secretary WEINBERGER. We will certainly have to have something, Senator.

The final testing is not complete. We will get the report when the final testing is done and make the decision then and submit it to you.

A division needs air defense. You have to have that. We have had some systems that are not effective. DIVAD offers very great promise. It is costing too much. The worst thing is that it has not yet begun to deliver the kind of performance that it should.

We are still testing. The final test will be completed sometime this summer or the end of the summer. We will make a decision at that time.

Again, we may have a situation in which we would have to conclude that DIVAD was not salvageable, go back to the less effective air defense that we have now and delay further, the time when we can get an effective air defense.

You always have this decision as to whether it is better to cancel—what you have put in a great deal of money and time on and start over—or whether you can salvage it.

Senator STEVENS. Is it salvageable, General?

General VESSEY. It ought to be. The whole idea of DIVAD was to put together tried components from other systems to do a well-defined job on the battlefield.

There is no reason in the world, it seems to me—not being a great engineer or technician—but it seems to make sense to take a tried-and-true gun, a tried-and-true radar, a tried-and-true platform, and put those three together and make a system that works.

It seems to me the decision the Secretary made is the right one. Let us go ahead with the testing and see how that testing comes out; in the meantime, make modest hedges against having to do something else.

Secretary WEINBERGER. We may have to go back to some kind of Chaparral system. As the General has said, thus far it has been a disappointment. You put three things together and nobody has been able to tell us why, when they work separately, they don't work together.

We may conclude that we will have to start over, but the division needs air defense, that is the problem.

PREPARED STATEMENT

Senator STEVENS. Senator D'Amato has been chairing a hearing on the Helsinki Commission. We thought he would be here. He won't be able to be here.

I want to put his statement in the record and ask you if you will please respond to the questions he has submitted, Mr. Secretary and General.

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO, U.S. SENATOR FROM NEW YORK

Mr. Chairman, I appreciate the opportunity to join in today's discussion of our defense program for fiscal year 1986. I want to commend you for your strong leadership as we move toward markup of the defense appropriations bill. I believe we should continue our practice of inviting Secretary Weinberger to appear at our closing hearing. His views always contribute to our ability to make decisions on the issues before us.

Facing a zero real growth defense budget focuses our attention on fundamental issues—issues which have been obscured by arguments about extravagant prices for coffee makers and toilet seats.

I strongly support efforts to stop waste, fraud, and abuse. We must make progress with these efforts. However, horror stories about problems in defense procurement must not become an excuse for gutting the defense of the United States.

I am afraid that some people are employing examples of waste, fraud, and abuse as weapons to attack spending on defense in general. These attacks damage the fragile consensus in favor of concrete responses to the Soviet military buildup.

Unfortunately, events this year have reinforced the attraction of the argument that there is so much waste, fraud, and abuse in the Defense Department that we can have a stronger defense for much less money. This is a dangerous fallacy. It leads people to support deep cuts on the theory that such cuts enforce increased fiscal discipline.

Many people are tempted to conclude that the atmosphere of waste, fraud, and abuse is so all-pervasive that the old common sense saying applies—where there is smoke, there must be fire. So, they decide that deep cuts will force the Defense Department to manage better—to prioritize its programs and police its contractors.

The fundamental issue remains the same—the balance of power between the United States and our principal adversary, the Soviet Union. When the focus is on defense reform and spending cuts, as it has been this year, we sometimes lose sight of this central point.

In fact, there have been major events this year which have caused the balance to worsen from the perspective of the United States. While the Soviet Union has continued to make progress with its strategic modernization program, not one B-1B or MX is yet operational. Faced with the growing preponderance of Soviet time-urgent hard-target-kill warheads, we have unilaterally capped the MX Program and begun searching for alternate basing modes for the Midgetman.

These events clearly foretell a situation in which growing Soviet offensive might causes us to place self-imposed limits on our own forces—limits which will have the effect of widening the Soviet advantage in strategic offensive striking power. We tell ourselves we are taking responsible actions to preserve both a stable strategic balance and reasonable prospects for arms control, when we are actually responding in part to well-crafted Soviet misdirection and subtle Soviet coercion.

From the Soviet perspective, this is the best kind of arms control—we unilaterally avoid strategic options which might be inconvenient or uncomfortable from their perspective, while their advantages grow without restraint.

While legitimate cases of waste, fraud, and abuse exist and must be urgently corrected wherever they may be found, we are dealing with a complex system upon which the security of our Nation and that of the entire free world depends. We need to be very careful that we fully understand all of the effects of changes we propose before we make them.

I fear that the results of this year's defense budget process will be higher costs for fewer weapons coupled with continued steady loss of public confidence in our defense industrial complex. It is becoming an article of faith that our defense contractors place profit ahead of patriotism.

Horror stories about waste, fraud, and abuse in defense procurement are undermining the credibility of those who speak for a strong defense. Through the drum

beat of media reports on this subjected, a false syllogism is being implanted in the minds of many who are not well informed about defense.

The syllogism goes like this—if defense contractors steal from people by charging excessive prices for weapons and parts and military officers and their civilian leaders don't stop them, then the contractors are thieves and the military and their civilian leaders are incompetents. Therefore, neither deserves our trust or our confidence and neither can be believed—not just on procurement issues, but on national security issues as well.

It took a decade after the end of the Vietnam war to restore the image of our military and restore public confidence in the military as an institution. Now that our armed forces are no longer considered napalm-mad baby killers, we run the risk that these stories are building a new image of our Armed Forces as a bunch of greedy, crooked incompetents. This image is growing just as the Soviet Union threatens to solidify a position of military advantage which will provide it with considerably greater political leverage in international affairs. I can't think of worse timing for these attacks on our Armed Forces and their civilian leaders.

Not that there has not been ample cause for criticism. I noted with great pleasure that the merit systems protection board finally ruled on the Starret, Tueller and Evans matter. Mr. Secretary, I several times asked you to use your authority to fire these people. You declined to do so.

The record was clear. These people took reprisal action against George Spanton for his attempts to expose and stop outrageous instances of waste, fraud, and abuse. Their actions were contrary to law and regulation, yet you did not exercise your authority as their supervisor to at least suspend them.

I warned you that the credibility of the Department's efforts to identify and root out waste, fraud, and abuse would be damaged if you left these people in charge of the Defense Contract Audit Agency. Now, it should be clear to you that this, in fact, has been the result. You have helped, through inaction, those who try to paint the military and civilian leadership of the Department as crooked, greedy, and incompetent. I know this was not your intent—you were supporting senior Department officials who were under fire.

However, I expect, and I know my colleagues expect, that you and other senior leaders in the Department will exercise the legitimate authority you possess to protect whistle blowers and effectively police those who would muzzle and persecute these lower level officers who are doing their duty. You did not have to wait two years to take action on Starret, Tueller, and Evans. You should have, at the very least, suspended them with pay until these allegations against them were resolved.

I hope you learned a lesson from this case. I don't want to have to sit here at any future hearing and argue with you again over the exercise of your managerial authority in another whistleblower case.

The bottom line is this—we will probably conclude congressional action this year with negative real growth in the defense budget. There is every prospect that next year will be worse. What we need to know is what these reductions in our defense budget will cost in terms of damage to our ability to deter war.

I look forward to discussing with you this morning the impact of reductions already taken in the authorization process and the probable impact of likely additional reductions in the appropriations process. We must know what damage our ability to preserve peace and protect freedom has suffered as a result of these cuts. I also want to know what you are doing to make certain that there is an end to these horror stories about waste, fraud, and abuse. Finally, I want to know how you evaluate the effects of the various reform measures we have legislated over the past several years.

Thank you, Mr. Chairman.

SDI RESEARCH SHARED WITH SOVIETS

Senator STEVENS. Senator Proxmire.

Senator PROXMIRE. Thank you, Mr. Chairman.

I realize the hour is late. I do have some questions I think can be answered.

One is that the President made one of the most astonishing announcements some time ago and you have backed it up, Mr. Secretary, and I have never seen it denied, that, as I understand it, you

would provide the star wars research to the Soviet Union. Absolutely shocking.

It is something I wouldn't believe. We are spending, as you know, between two and a half and \$3 billion in 1986. We expect to spend \$25 billion in the next 5 years, \$50 billion before we start deployment, the most expensive and perhaps the most valuable research the Government has ever done.

Recently there were reports on that research indicating they have made exciting progress, indicating that progress was not only useful from a defensive standpoint, but from an offensive standpoint, skin-hardening, laser, and so forth.

I would like to give you an opportunity, if you want to do so, to tell us whether you would still intend to hand over lock, stock and barrel the star wars research to the Soviet Union or whether that is no longer your intention.

Secretary WEINBERGER. First of all, it does not have an offensive capability. It is strategic defense and strategic defense only.

What the President said—it is important to have an opportunity to talk about it this way—what he said was that if the research succeeds and we find we can deploy this sort of program, in all likelihood because of the length of time the Soviets have worked on it, they would have one or be very close to one themselves. Our worry is that they would get it first.

The President has said if we can prove that the research will work and we are ready to deploy and are deploying, we would share the technology with the world because what he wants is not an offensive achievement or offensive asset.

What he wants is to eliminate, make abslescent and impotent, these weapons that have put such fear into the world since they were first developed.

That is the background and the meaning of his statement.

Again, let me emphasize that the Soviets have been workig on it for many, many years, have evinced such an intention, and that the President's statement on sharing with the world was designed to demonstrate we didn't have any offensive capability. We wanted to use it to make intercontinental and intermediate range nuclear missiles no longer useful.

OFFENSIVE CAPABILITIES OF SDI

Senator PROXMIRE. Mr. Secretary, there is no question in my mind at all—I may be completely wrong—you are the expert, I am not, there is no question in my mind the research in star wars has developed some extremely useful offensive technology, laser technology, skin-hardening technology able to resist technology that permits material to be used that can resist laser beams, can resist heat, can resist any number of the defensive mechanisms that might be used.

Do you believe if the Soviet Union did develop this defensive system first, they would give it to us?

Secretary WEINBERGER. No, I know they wouldn't. That is why it is so important for us to keep working on it.

Senator PROXMIRE. You think we should give it to them?

Secretary WEINBERGER. The President said the technology needed to make this thing work, and not all the other things you are talking about, would be shared with the world so as to remove the threat of these weapons should we be able to develop that kind of system. But not all of the other byproducts or anything else you mentioned. It is important that America keep technology, because otherwise we find it used against us, as we are now.

Our budget has to be as high as it is for the prime reason that the Soviets have taken or been given so much of our technology already.

What the President is talking about is a very specific thing, strategic defense many years down the road. He is contrasting it to the Soviets very covert work in this area for many, many years that at the moment gives them a lead in some aspects.

That is why it is so critical that we not allow them to get it first.

Senator PROXMIRE. I think we are helping them if we give it to them.

SOVIET VIOLATIONS OF SALT II TREATY

General Vessey, in your professional military opinion, which specific cases can you cite that the Soviets are unambiguously cheating on the SALT II agreement?

General VESSEY. Under SALT II, of course, they have not gotten down to the numbers that they have agreed to get down to. They have deployed or are about to deploy an extra missile system under SALT II. The Krasnoyarsk radar is a violation of the ABM Treaty.

Senator PROXMIRE. I am asking about SALT II.

Have we brought this up with the Standard Consultative Commission where disputes are supposed to be resolved?

General VESSEY. Yes.

Senator PROXMIRE. We have?

General VESSEY. Yes.

Senator PROXMIRE. In 1982 the Arms Control and Disarmament Agency made a very generalized report. I realize it is confidential, but they made a general report that on SALT I any disagreements between the Soviet Union and the United States have been resolved to our satisfaction.

We charged that they seem to be violating the treaty. It seems to me it would be helpful if some kind of general report could be made in the last year or so as to violation.

We hear Senators charging tremendous violations by the Soviet Union. We hear others deny those violations.

Senator STEVENS. We will have hearings before the committee on a classified basis, current pending allegations by our country violations.

Senator PROXMIRE. I understand that. My problem is that we cannot and should not discuss that publicly. It is classified. Maybe we shouldn't.

At the same time, it seems to me it would be helpful to those of us who would like to debate it in the press and the public in general if we could have as much information as possible.

General VESSEY. The President's report to the Congress is very complete.

Senator PROXMIRE. I am talking about allegations. I am talking about what happened at SCC.

Secretary Weinberger, on March 26 you formally invited our NATO allies to join in the star wars research. And you gave them a deadline of 60 days to respond. Well, it is now about 90 days since you gave what the European countries have termed privately was an ultimatum on star wars.

So far the only country to respond was France and it said thanks, but no thanks. Britain and West Germany never responded. And, as I understand it, you have quietly withdrawn that deadline.

Is that correct?

BIDDING ON SDI BY FOREIGN FIRMS

Secretary WEINBERGER. It was never a deadline or ultimatum. What we were trying to do with the letter was indicate to them that this was an ongoing program, that we were making awards and signing contracts every week. We were hoping to have European participation, not by countries so much, but by companies and scientific institutions, because it was an ongoing program with a lot of contracts being awarded every week.

We hoped they would want to bid on some of these contracts as soon as possible. That was the only background for it.

Senator PROXMIRE. They have not done so; is that right?

Secretary WEINBERGER. We have had a great deal of interest in bidding on specific phases of it. I would expect that there would be a number of bids within a couple of months on some very specific aspects for which we have provided a lot of briefings.

France as a country indicated they did not wish to participate, that they had an initiative of their own they wished to pursue. We have had great expressions of interest from the Federal Republic of Germany, from the United Kingdom, and from a number of other countries, including some private non-Government interests in the Netherlands.

Senator PROXMIRE. Was the response from West Germany and United Kingdom from the Government or from individual companies?

Secretary WEINBERGER. From both. There have also been many individual French companies. I would expect some bids coming in from French companies even though the Government says they don't wish to participate.

EMPLOYMENT REPORTING BY FORMER DOD EMPLOYEES

Senator PROXMIRE. Mr. Secretary, many of us are concerned about the revolving door. I am very much concerned about it.

As you know, defense employees who go to work for a defense contractor are required to report their employment to you 3 years after they leave DOD. I sponsored that amendment in 1969 in attempting to regulate conflicts of interest that may arise with DOD employees going to work with the same contractor they had supervised.

These conflicts have been multiplying since 1969. As I pointed out to you in a letter last week, the GAO reported only 29 percent, less than one-third, of the employees were reporting employment.

Mr. Secretary, can you tell us what efforts DOD has made to assure employees' reports and what you plan to do to ensure compliance in the future?

Secretary WEINBERGER. What is done is when employees get into that position where they leave and go with the company that has had contracts with the Department, they are given copies of the law and they are told that they are to comply with it.

I think in view of the letter and the facts you pointed out, it is apparent that not enough are complying with it. We intend to take whatever measures are available to us. I believe notification and continued requests are the only sanctions that we have. We certainly are going to exercise those to the fullest.

Senator PROXIMIRE. As I understand it, so far we have found no employees who have been prosecuted. I would like to know why there have been no prosecutions and what plans you have to refer the names of the thousands of employees currently violating these provisions to the Justice Department?

Secretary WEINBERGER. The prosecution, of course, requires a finding of criminal intent. I can't tell you now whether it is a prosecutable offense not to do this. We would have to turn it over to the Department of Justice, and so on.

The figures we have been given are that 30 percent are complying and 70 percent are not. Obviously, we would start taking much more immediate steps to make them comply.

Senator PROXIMIRE. I would appreciate it.

I have one other question. I would appreciate it if you would suggest revision in reporting laws to ensure enforcement.

Secretary WEINBERGER. All right, sir.

THREAT OF NUCLEAR TERRORISM

Senator PROXIMIRE. Secretary Weinberger, yesterday and today a conference has been held in Washington on the potential threat of nuclear terrorism. The fear is that nuclear terrorism may be the type of terrorism we face in the future.

People also are beginning to worry that the more we commercialize plutonium worldwide, the more we increase the chances of terrorists getting this plutonium and making a bomb from it.

I have been pleased to see that the Defense Department has taken a harder line against the commercial use of plutonium than other departments in the Government. You accurately recognized that the spread of plutonium represents a national security nightmare for DOD.

What do you think we should be doing to halt the proliferation of plutonium worldwide?

Secretary WEINBERGER. We do have active review of that. We would be prepared to recommend through normal administrative channels some changes in that law. Whether we would reach you or not would depend on whether this formally came in as an administration proposal.

Certainly we are aware of the risks and the dangers. Certainly there is no doubt that international terrorism and terrorism as a means of warfare carried on by other governments is on the rise, and we have to have all of that in mind.

That is part of the background of what we are looking at to form conclusions as to what kind of legislative changes ought to be made.

ACTIONS TO COUNTER TERRORISM

Senator PROXMIRE. Do you or General Vessey have any recommendations as to what we can do about this terrorism situation that has been getting so bad, worse all the time?

Secretary WEINBERGER. I start with the idea that the first thing you need is more intelligence. This is not to criticize the current intelligence capability of the Government at all, but it is to say we need to increase the ability to deploy human intelligence sources and to gather intelligence from those sources. The more knowledge you have of any planned activities, the more you are able to cope with them.

I would start with that. The human intelligence capability was severely crippled during the 1970's and it takes a long time to recover it.

We have very good intelligence now from a number of sources, but I think everyone agrees we need to increase our human capability.

We also need to have flexible and well trained forces ready to deal with a large number of difficult contingencies, and we are making very good progress in that area.

In the final analysis, there is always going to be a potential for terrorist activities. I think you can diminish it if it is perceived that you do have the means to deal with it, trained and ready.

Even that is not any guarantee when you are dealing with a group of total fanatics who feel their ticket to paradise is to kill somebody and go along with it.

General VESSEY. I would think, in addition to the point the Secretary made is mustering world opinion of the civilized world to take on the problem.

In almost all of the terrorist incidents, you see where part of the world says, "well, that is somebody else's area," and lets it go by.

I often cite the example of the little State of Burma in dealing with the terrorist attack in the President of South Korea and his party in Burma several years ago.

Despite the fact that Burma had strong economic and diplomatic ties with North Korea, when Burma found out that North Korean agents were involved in the terrorism, they caught the terrorists, executed those who did it, and then broke diplomatic and economic relations with North Korea.

It seems to me that if the whole world would take that sort of step against nations that engage in terrorist activities, whether it is against them or anybody else, then we might see some action.

When you can see an airplane fly into an airport and with the connivance of the authorities at the airport add additional terrorists at the airport, yet the airport continues to operate, you have a

very strange thing. It is an anaomalous phenomenon that defies that laws of civilization.

Senator PROXMIRE. Thank you very much, Mr. Chairman.

Senator STEVENS. Thank you, Mr. Secretary and General Vessey.

I personally want to commend the President and you for keeping the 6th Fleet in place in Lebanon. That has not come up this morning. I thought it might.

We appreciate your coming here.

SUBMITTED QUESTIONS

The committee has additional questions which we will submit for your response.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

ASAT STATUS

Question: The GAO recently reported that the Under Secretary of the Air Force directed that a reassessment of the ASAT program be conducted with a late June 1985 completion date. What were the results of that reassessment and how has the program schedule and funding been restructured as a result? What is the current program cost estimate?

Answer: [Deleted].

SPECIAL OPERATIONS FORCES (SOF) AIRLIFT SUPPORT

QUESTION: There has been considerable discussion about how the Department should provide airlift support for its special operations forces.

What is the current situation on this issue and how much does the Department now plan to spend in fiscal year 1986 to include planned reprogrammings for special operations aircraft by service?

ANSWER: Special Operations Forces are still experiencing shortfalls in dedicated airlift support. The greatest problem occurs in the area of long-range infiltration and exfiltration, which requires an increase in the number of MC-130 Combat Talons and HH-53H Pave Low helicopters to meet wartime and JSOC tasking.

The Services, however, are working toward the resolution of this problem. In FY 86, the Army is spending \$87.2 million for CH-47 and UH-60 helicopters; the Air Force is spending \$254.8 million for a variety of SOF aircraft, spares, and aviation support; and the Navy is spending \$5.1 million for operations and maintenance of its two HA-1K helicopter squadrons.

NATO AIR BASE DEFENSE

QUESTION: The House has authorized an unbudgeted \$125 million for NATO Cooperative Defense Programs. Earlier this year, staff was told that existing agreements would be funded within the budget and that there was little change of additional agreements being negotiated with Italy and Belgium before 1987.

Does the Department need any of this \$125 million for "seed" money or for existing agreements? If so, how much and why?

ANSWER: The negotiating process with both Italy and Belgium is in its earliest stages. Specifically, the USG and the GOI have appointed negotiating teams. An initial organization meeting was held, but the first substantive session cannot take place until the report of the US-IT "Experts Group" is completed. It is estimated that the first substantive meeting will be held in October 1985.

No negotiations have been held with the GOB. Given the current Belgian governmental crisis, it is unlikely that any process could be initiated before December 1985.

Given these facts, the DoD cannot specify for what the 1986 funds would be used.

QUESTIONS SUBMITTED BY SENATOR WEICKER

LHX HELICOPTER PROGRAM

QUESTION: Are you familiar with the LHX cost study in progress within your office?

ANSWER: Yes, I am.

QUESTION: If the review by the Cost Analysis Improvement Group finds that the Army's estimates are ill-founded and unsupported by reliable data, would you be willing to cancel the LHX program and proceed with alternative ways of fulfilling the Army's needs?

ANSWER: The CAIG is reviewing the validity of the preliminary cost estimates of both the LHX and its potential alternatives. Programs, however, are not selected on the basis of cost estimates alone. The system's contribution to the effectiveness of the force may be of equal or even greater importance than cost. Therefore, the decision on the LHX will await the results of the Army's Cost and Operational Effectiveness Analysis (COEA) now in progress. The Defense System Acquisition Council II (DSARC II) review to decide on the LHX or an alternative is scheduled for 1986.

HH-60A NIGHT HAWK HELICOPTER PROGRAM

QUESTION: Are you familiar with the combat rescue helicopter programs of the Air Force and the Navy?

ANSWER: Yes, both services have a combat rescue mission and are in need of replacement aircraft.

HH-60A NIGHT HAWK HELICOPTER PROGRAM

QUESTION: Do you believe that the two services have different needs for this mission?

ANSWER: The two services do have different requirements for the combat rescue aircraft although many similarities exist. For example, the Navy aircraft must be marinized and shipboard compatible, whereas the Air Force aircraft do not have to be. On the other hand, the Air Force has an air-to-air refueling requirement that the Navy does not have. As for the major avionics systems, the largest difference in cost, the Navy has yet to fully define their requirements, however, they are expected to be very similar to those of the Air Force.

QUESTION: If the Navy is satisfied that a stripped down version of the UH-60A is adequate for the mission, why does the Air Force need to spend twice as much on the same basic helicopter for the same mission? Does that make sense to you?

ANSWER: The Navy tends to use the "stripped down version of the UH-60A" aircraft procured in the FY85 budget to determine the final combat search and rescue configuration required to do this mission. It is conceivable the final configuration will closely approximate the Air Force version except for those differences noted in the answer to your previous question.

Question: What assurance do you have that the SSN-21 can be built for \$1 billion per boat, especially in view of the technical problems with the weapons control system?

Answer: The SSN 21 Combat Control system program has been restructured to eliminate areas of technological risk. It will be managed separately from the SSN 688 Class Submarine Advanced Combat System program, will use proven technology, and will be competitively procured. The acquisition strategy will include separate competitions for system design and for system production.

Similarly, design and production of the SSN 21 itself will be competitive. Two shipbuilders will be carried through the contract design phase, then one will be selected as the agent for detailed design. The other will be assigned the role of design and producibility assurance throughout the detailed design. This will result in both competitors being thoroughly familiar with all aspects of the design and fully qualified to compete for production.

SSN 21 will be designed to take maximum advantage of new shipbuilding techniques. Some of these techniques, such as modular construction and prefabrication, have already saved significant time and cost in the construction of TRIDENT and 688 Class submarines, even though those classes were not originally designed for these techniques. For example, although piping system prefabrication was introduced into the TRIDENT and 688 Class construction programs long after the ship designs were completed, prefabrication still cut piping system costs considerably.

Planning for such modern construction techniques from the beginning should increase their cost-effectiveness. Computer-aided design can extract even more benefit from modern construction methods. In the case of piping systems, for example, the naval architect can not only design the system for modular installation, he can arrange the piping layout to simplify prefabrication templates and design the templates for maximum efficiency at the same time.

SSN 21 cost estimates are conservative, for they have taken full credit only for those techniques already proven in past construction work. Techniques now being perfected, such as improved welding procedures, ultrasonic rather than X-ray testing for hull welds, and substitution of high strength, low alloy steel for non-pressure-hull components, should save additional time and money once they are proven and introduced into the construction process. It is estimated that substitution of ultrasonic testing for X-ray, for example, can save several million dollars per ship.

Question: What steps have you taken to ensure that the Navy's cost goal of \$1 billion per boat is met?

Answer: The Defense Department staff is maintaining close watch on the SSN 21 program. It has just completed a Milestone IIA review before granting approval to proceed with contract design. It plans to conduct a Milestone IIB review at the end of contract

design before approval for detailed design is granted. It also plans to review the SSN 21 combat system program in November 1985 before granting approval to proceed with concept development for that critical system.

SSN 21 costs have been reviewed by multiple independent cost estimators. The program manager's cost estimates have been compared with estimates from the Navy's independent cost estimation group, the major Navy shipbuilders, and the Defense Department's Cost Analysis Improvement Group. All agree the Navy's cost goal can be met.

Additionally, SSN 21 will be designed-to-cost. Not only will this ensure cost is a driver in the initial design, but it will ensure that all design changes are reviewed with cost in mind before they are approved.

In the past, shipbuilders have claimed that many cost increases were the result of late design changes by the Navy. The SSN 21 schedule provides a full 24 months between the start of detailed design and the start of lead ship construction. This allows twice as long for detailed design as was available for the TRIDENT program and will provide a much more mature design at the start of actual construction. This increased design time, plus the natural check on changes imposed by the design-to-cost approach, are expected to avoid cost increases caused by design changes.

Historically, ship cost is closely related to ship size. The Secretary of the Navy has imposed a limit on the size of SSN 21 which will be one added factor driving the designers to stay within their prescribed limits. The effect of this limit has already been felt in the selection of the SSN 21's speed and depth capabilities. The limitation on size, combined with the imposed cost ceiling, forced a careful balance of operational requirements against cost. Detailed analyses were performed to ensure these parameters were selected within cost and size limits without sacrifice of vital capability.

The Defense Department staff is working closely with the Navy to ensure the management structure of the SSN 21 program office is appropriate in size and assignment of responsibility to maintain proper focus and visibility of this critical program. Defense Department oversight will be close throughout the life of this important program.

Question: While the SSN 21 will be considerably quieter and have more firepower than the SSN 688, increases in its operating depth and speed will be marginal at best. Given the trends in Soviet submarine technology, why isn't the capability to operate at greater depths and higher speeds considered more important?

Answer: Combat history shows the decisive submarine design factors are speed, depth, quietness, armament, and sensors. Before these parameters were selected, they were analyzed for their combined contribution to the ship's combat effectiveness across the full spectrum of operational missions. The analysis showed the decisive factors were silencing and sensor performance.

Top speed is important for getting to the mission area, repositioning, intercepting, and evasion. More important to overall combat effectiveness, however, is "tactical speed", the maximum speed where the ship detects its opponent first.

[Deleted].

The next logical incremental speed increase would significantly increase the cost of the SSN 21 without a correspondingly significant increase in combat effectiveness.

Operating depth is also important for getting to the mission area and using oceanographic features effectively for search and evasion. Furthermore, operating depth determines hull strength, which affects the ship's ability to withstand battle damage. SSN 21 will dive deeply enough to use her maximum speed safely and her sonar effectively. [Deleted]. Selection of hull strength and depth capability then becomes a tradeoff of cost versus battle hardness. This tradeoff was made conservatively after much analysis.

In summary, SSN 21's speed and depth were selected after exhaustive analysis of their effect on the ship's combat performance and cost. This analysis included a three-month review of mission effectiveness by the Defense Department staff using the ship characteristics specified for contract design.

Question: Does it make sense to keep two anti-submarine warfare helicopter production lines operating at relatively low, inefficient rates?

Answer: At this point it does appear cost effective to keep two helicopter lines operating. The SH2F line is operating at a very low rate but the alternative would be to convert all Navy escort ships to be Lamps MK III capable which would be much more expensive. The Lamps MK III Production line at the planned rate of 18 is not at a low rate because the Lamps MK III airframe is 60% common to the Army UH-60 which is in high rate production. It is also fully common with the SH-60F Inner Zone Helo which will enter production shortly.

Question: When is the Department planning to terminate the SH-2F production program?

Answer: Procurement plans for the SH2F beyond FY86 are being addressed in the FY87 Budget Formulation process now underway.

FY 1986 BUDGET WRAP-UP

QUESTION: When the Army originally submitted its FY 1986 program to you, did the Army request 720 or 840 M1 tanks?

ANSWER: The original Army request was for 720 tanks. This quantity would be adequate to meet all the Army's needs.

QUESTION: If the Army considers 720 M1 tanks per year to be adequate for its needs, why does the budget include a request for 840?

ANSWER: The DoD Program Budget Decision No. 692 increased M1 tank production to the more economic rate of 840 per year. Based on the planned budget at the end of CY 1984 this was an efficient and affordable decision.

QUESTIONS SUBMITTED BY SENATOR ANDREWS

FY86 Budget Wrap-up

QUESTION: One section of the draft guidance defining military equipment that falls under the warranty law specifically

excludes, ... "related support equipment, such as ground handling equipment..."

This is particularly troublesome because there is clear legislative intent that all military systems, components, etc. used in combat missions are meant to be included in the statute. I would like DoD to inform the Congress on exactly what kind of equipment is being referred to in this guidance along with a full explanation as to why "support equipment" is being excluded.

ANSWER: Related weapon system support equipments are such things as ground-handling equipment, (generally this would be mechanical equipments consisting of such things as ladders, dollies, work stands, jacks, etc.), training devices and related accessories. Further, support equipment does not fit the definition of a weapon system with its subsystems and components that is used directly to carry out combat missions as described in the law. Our warranty policy is specifically directed to weapon systems that meet the requirements of the law. However, our policy does require that warranties be applied to support equipment when it is necessary to achieve an effective weapon system warranty.

QUESTION: Another section of the guidance assumes that the procurement of "spare, repair, or replenishment parts" is not subject to the warranty law. With all the horror stories in the press lately, would you agree that the enforcement of the warranty law on spare parts would assist the DoD in getting rid of these stories of overpricing and poor workmanship? -- If our intent is to make weapons systems reliable on the battlefield, it does make sense to make sure every part of those weapons, including the spare parts, are reliable durable, and dependable.

ANSWER: The Department has been and continues to be dedicated to fielding weapon systems which are reliable and completely satisfy the mission need.

In implementing the warranty legislation, the Department acquires the warranty from the weapon system prime contractor. Under the weapon system warranty all the sub-systems and components which contribute to the attainment of the specified essential performance requirements will be warranted. In addition, all elements of the weapon system will be covered by the design and manufacturing and materials and workmanship warranties.

When a weapon system is still under warranty and a spare part is necessary which contributes to the selected performance requirement under the weapon system warranty coverage, we insure that we use spare parts which would not void our system coverage and which are covered by similar warranties. Weapon system subsystems such as engines and other GFE have warranty coverage in accordance with the law. It should be noted that spare parts overpricing cannot be corrected through the use of warranties. Also poor workmanship is contractually covered in every item the Department buys either with or without a warranty.

QUESTION: A final, but certainly not the last of my concerns with the draft guidance is the statement that reads: "Class waivers may be granted where justified." This open-ended allowance clearly goes against the legislative intent of the warranty statute. All this does is give strength to those bureaucracies in the Pentagon hoping to circumvent the law at every possible turn.

Language instead, Mr. Secretary, should be inserted requiring a "narrowest possible waiver" test to validate waivers to the warranty. Under such a test, if DoD asks for a component to be waived under the law's guidelines, then only that single component is to be considered for a waiver, and not the entire weapons system.

ANSWER: The Department is not trying to circumvent the law by using class waivers. We believe this term is misunderstood by many but it is a reasonable administrative practice in selected instances. It has limited application but in those instances where we are buying the same item (weapon system, major subsystem, etc.), repeatedly during a given year with more than one contract, a class waiver (one waiver) would satisfy the waiver requirement, if applicable, to justify the reason for waiving the law in all those instances where you contract for the item in that particular year. Another example might be a weapon system which has demonstrated through repeated field use that it is no longer cost effective to carry a warranty on the weapon system. This would be a system that had been produced over a long time and where field data had verified the equipment servability. In this instance a class waiver might be used instead of submitting separate waivers each year. Even though the regulatory guidance provides for the issuance of a class waiver, each circumstance must be completely justified, substantiated, and Congress notified. The Department does not intend to abuse the use of such waivers. The Department foresees using such waivers only in exceptional circumstances where it is completely justified.

QUESTIONS SUBMITTED BY SENATOR D'AMATO

Question. The fiscal year 1986 defense authorization may be as much as \$30 billion below the Department's request. What programs would be phased back or deferred?

Where will you look for additional funds to keep many of our important defense programs active?

Answer. Since we don't know what the final form of the authorization will be, we can't say what programs will have to be phased down or deferred. The Congress will make many of those choices itself in the specific program reductions mandated by the authorization bill. Where the two Houses have differed in their treatment of individual budget items, we will appeal to the authorization conferees for funding that we believe is necessary to meet our national security requirements. Where both Houses of Congress reduce specific programs in the authorization act, we of course must accept those levels. There is no place for us to look for financing of important defense programs beyond what the Congress specifically approves.

QUESTION: The dollar cost of security is very significant. Of course, security leaks can be much more costly. There is much criticism that there are too many people with security clearances. There are approximately 3 million DoD military and civilian employees, including soldiers, yet there are 4.3 million people with security clearances. What is being done to reduce the accessibility of all classified information?

ANSWER: A number of initiatives are underway or under consideration. On 10 July 1985, I directed all DoD components to implement a 10% reduction in the number of cleared personnel to be completed by 1 October 1985. In addition, a 10% reduction in the number of investigations requested in FY 86 must be accomplished, using FY 84 as a baseline. DoD is also exploring means to effect a substantial reduction in the number of TOP SECRET and SECRET documents and the scope of their dissemination as well as imposing better controls over an individual's access to classified information. Currently the DoD Personnel Security Review Commission (Stilwell Commission), composed of senior DoD and industry officials has been meeting to identify existing or potential DoD systemic security vulnerabilities or weaknesses and make recommendations to correct deficiencies. Other initiatives underway include the DoD polygraph test program, attempts to obtain required access to criminal history record information and centralization of security clearance determinations in the Navy.

QUESTION: How many new clearance are granted each year? How many are cancelled? What is the cost of the security clearance program?

ANSWER: During FY 84 a total of 168,000 TOP SECRET and 623,000 SECRET clearances were issued. During FY 83 the numbers were 136,000 and 576,000 respectively. With respect to adverse actions taken, FY 84 produced a total of 18,000 and FY 83 19,000. No data is available on the number "cancelled" administratively, as a result of, for example, retirement from the Service, death, etc. The DIS budget for FY 85 is \$118 million. However, the DoD personnel security program is inextricably woven into a significant portion of the activities of this department, and hence its overall cost is not quantifiable.

QUESTIONS SUBMITTED BY SENATOR BYRD

WEST VIRGINIA

QUESTION: Mr. Secretary, last October 3, I engaged in a colloquy on the Senate Floor with the distinguished Chairman of Defense Appropriations Subcommittee, in which I enlisted his support

to have the Department of Defense look into ways in which we might cooperate to strengthen the Defense Department's presence in West Virginia.

Subsequently, I met in my office with Secretary of the Army, John Marsh and the Army's Chief of Staff, General Wickham regarding possible expansion of Army programs and projects in West Virginia. I next met with Secretary of the Air Force, Vern Orr to discuss possible expansion of Air National Guard programs and facilities in West Virginia.

In both cases, I received assurances that these gentlemen would go back to their respective Departments and see what could be done, and they are following up on those assurances.

In addition, on last Thursday, during consideration of the Supplemental Appropriations bill, I engaged in a colloquy on the Senate floor in which I identified some thirty-two Guard and Reserve projects being planned for West Virginia over the next five years. During that colloquy, I enlisted the support of the distinguished Chairman of this Subcommittee (Mr. Stevens), the distinguished Ranking Minority Member (Mr. Stennis), the Ranking Minority Member of the Armed Services Committee (Mr. Nunn), and the Ranking Minority Member of the Military Construction Appropriations Subcommittee (Mr. Sasser) for the expedited review by the Pentagon of these thirty-two military construction projects. Each of these projects is already included at some stage in the five-year plans of either the Army National Guard, the Air National Guard or the Army Reserve.

I asked for, and I believe I have the support of my colleagues, that these projects receive speedy review so that the design, budgeting and construction of these projects can move forward at an expeditious pace.

In summary, there are thirty-two military construction projects now being planned for West Virginia worth approximately \$15 million.

Early review and approval of these thirty-two projects by the Pentagon will accelerate the dates of construction of these projects in West Virginia. Early construction will provide jobs for West Virginians.

Early construction will avoid the costs of inflation due to delayed construction.

Construction of these thirty-two projects will provide the benefits of modern, updated, training facilities for our Guard and Reserve personnel in West Virginia.

Mr. Secretary, may I have your assurances that you will look into this matter and see what can be done? Would that be agreeable with you Mr. Secretary?

ANSWER: Yes. I will have my staff contact the Services regarding these projects.

CONFERENCE POSITION ON ATB, ACM

QUESTION: Secretary Weinberger, as you know, I have been a strong supporter of the Advanced Technology or "Stealth" Bomber program and have offered successful amendments to the annual Defense authorization bills to ensure full funding for this critical defense program.

I am concerned about the prospects for a successful outcome of the upcoming conference between the Senate and House on funding for this program and for the Advanced Cruise Missile. It is my understanding that the Senate essentially fully funded both programs at the requested levels and that the House made major reductions in

both which could have significant consequences for their progress. Can we have your personal assurance that you will vigorously oppose the House position in conference and just as vigorously support the Senate's position to fully fund both the Stealth Bomber and Advanced Cruise Missile Program at the requested authorization level?

ANSWER: I can assure you that I will strongly recommit to the Authorization Conference those recommendations of the House for reductions in the Advanced Technology Bomber and Advanced Cruise Missile programs.

DIVERSION OF ATB FUNDS

QUESTION: Will you also oppose strenuously any efforts by Congress to reduce requested funding in the Stealth Bomber Program if those funds were diverted to other programs, especially to continue B-1B Bomber production beyond 100 aircraft, as you stated to the Senate Armed Services Committee in responses to questions for the record at the February 4, 1985 hearing?

ANSWER: I remain a strong advocate for the program, and I will continue to defend the program against any funding reductions proposed by the Congress.

POSITION ON ATB

QUESTION: At the Senate Armed Services Committee hearing, you also answered a question for the record stating that the Stealth Bomber "is not a paper bomber," and that "... The present program to develop the Advanced Technology Bomber has given us high confidence the system will achieve initial operational capability in the early nineties as scheduled and be procured within projected cost." You also stated "the ATB also is progressing well." Are these still your positions as to the progress both technologically and in terms of the schedule and projected costs of the Stealth Bomber?

ANSWER: Yes, I remain quite optimistic on the technological progress, the program costs, and milestones for the ATB program.

SURPLUS IN THE B-1 BOMBER PROGRAM

QUESTION: Chairman Stevens, at a hearing with Air Force witnesses on May 21, 1985, asked whether there could be a substantial surplus in the B-1 Bomber program after the final multi-year procurement contracts have been negotiated. The Air Force said it expected that those contracts would be finalized some time this month. Have those contracts been finalized and if so, what is the extent of the surplus in the B-1 Bomber program; if not, when will you be able to inform the Committee in detail of the outcome of those negotiations?

ANSWER: These contracts remain in the final process of negotiation and as soon as all details are finalized, I plan to report the results to the Congress as requested.

TERRORISM

QUESTION: Considering the most recent outbreak of terrorist incidents throughout the world, beginning with the airline hijacking two weeks ago and continuing through the explosion at Narita

Airport, in Tokyo, it would seem that existing international agreements and security arrangements are in drastic need of improvement. There has been some discussion of the need to negotiate a new international convention against terrorism. Do you agree that such a new international convention should be negotiated? What other recommendations would you have for specific improvements in our security procedures and international agreements to combat terrorism?

ANSWER: A new international convention that increases international cooperation to combat terrorism, if one could be negotiated, would be beneficial. However the problem of developing an internationally agreed upon definition of terrorism would make the negotiation of such a broad convention extremely difficult, if not impossible. In the past we have restricted conventions to specific issues such as in the Hague, Montreal and New York Conventions. These conventions have been basically effective but additional effort needs to be placed on the enforcement of the provisions of these conventions. The State Department is actively pursuing both bilateral and multilateral discussions with other nations to improve international cooperation in combatting terrorism and we fully support these initiatives.

QUESTION: Would we have any semblance of the capability to handle the Beirut situation immediately?

ANSWER: The Department of Defense already maintains an excellent Counterterrorism Joint Task Force. This is a specially trained and equipped force comprised of elements from all four services which is highly capable of responding to and resolving terrorist incidents when so directed by the National Command Authority. The utility of this force is highly dependent upon the nature and location of the terrorist incident. In Beirut this force would have had to operate in a very hostile environment, which would have significantly increased the risks involved.

QUESTION. Mr. Secretary, you were quoted in the New York Times on June 13, 1985, as favoring the death penalty for espionage. May I assume that that is still your position?

ANSWER. Yes. I was pleased to note that the conferees on the Department of Defense Authorization Bill have included legislation creating a punitive article covering espionage in the Uniform Code of Military Justice, and that this provision authorizes capital punishment. I fully support the Administration's proposal to establish capital sentencing procedures in the civilian sector for espionage and other serious offenses.

QUESTION. On June 12, Assistant Attorney General Trott of the Justice Department was reported by the Washington Post as favoring mandatory life imprisonment for espionage whenever the death penalty is not imposed. Is that your position as well?

ANSWER. The Department of Defense does not favor such mandatory sentences for two reasons:

First, there is the issue of damage limitation. Frequently, in an espionage situation, an investigation may reveal only the tip of the iceberg. There is a need to assess damage, and to probe deeper for other offenders. With a mandatory life imprisonment provision, the government is limited in its ability to obtain information from the accused. I wish to emphasize that this does not mean that the government would not take seriously the need for strong punishment in such cases; but we should not create rules that so rigidly limit the government's flexibility.

Second, a mandatory life sentence provision paradoxically would reduce the likelihood of obtaining convictions in some cases by causing the court members to focus on sentence, rather than on the issue of guilt, during the findings stage of the trial. Experience in both civilian and military trials has demonstrated that when the jury focuses on the sentencing consequences of a mandatory punishment rather than on the issue of guilt or innocence, there is an increased likelihood of an acquittal despite evidence sufficient to support a conviction. Although all these cases are serious, some are less serious than others; and it would be most unfortunate to have acquittals in the less serious cases -- which are still detrimental to our national security -- because of a mandatory life sentence provision.

The Department of Justice, in a letter to Senator Wilson dated July 8, 1985, expressed opposition on similar grounds to such mandatory penalties.

QUESTION. The reason I ask is as follows: On May 24, Senator Thurmond and I offered an amendment to the Department of Defense authorization bill which would require life imprisonment whenever the death penalty is not imposed. That amendment was adopted by the Senate, and of course the bill will now go to conference with the House.

In view of the strong positions you and Mr. Trott have taken on this subject, can you assure us of your strong support for our amendment in conference?

ANSWER: The amendment was not adopted by the conferees. As noted above, however, we are pleased that the conferees established a capital espionage offense in the Uniform Code of Military Justice, and we urge prompt action to establish capital sentencing procedures in the civilian sector.

Procurement Reform

QUESTION: The President has appointed a Blue Ribbon Commission to investigate Defense waste and procurement mismanagement. Can you assure us that you will give your Department's fullest cooperation to assist this commission in carrying out its responsibilities?

ANSWER: Yes. We will cooperate fully with the President's Commission.

QUESTIONS SUBMITTED BY SENATOR SASSER

Burden-Sharing in SWA

QUESTION: The United States has assumed the burden of preparing for the defense of Western interests in the Middle East-Persian Gulf Region. Do you believe that our NATO allies and Japan should be sharing in this financial burden?

ANSWER: Yes, we believe our allies should share this financial burden, and in some cases they already do. Some of our NATO allies have long experience in the region and still maintain a presence there. France, for example, has naval and tactical air facilities in Djibouti which could help keep open the Strait of Bab el Mandeb in a conflict. Similarly, the United Kingdom has provided military personnel to assist the Sultan of Oman's armed forces and has made arrangements for our using and improving its facilities at Diego Garcia. France, Italy, the United Kingdom, and the Netherlands have participated in multinational peace-keeping forces in the Middle East and in mine-clearing operations in the Red Sea. A number of the European allies have provided support en route to U.S. forces deploying to SWA for exercises and other missions. Furthermore, the United Kingdom and France routinely deploy forces to the region.

As for Japan, though it does not contribute directly to the defense of Western interests in SWA, it does so indirectly by fulfilling its role in helping to deter Soviet aggression in East Asia. Japan is making progress on its program to improve its military forces and to extend its capabilities to defend the surrounding sea and air lanes out to 1000 miles. These improvements will ease the burden on U.S. forces and may permit greater flexibility in responding to crises worldwide, including those which may arise in SWA.

While these are examples of things our allies are doing, we believe in some cases more can be done to share the burden of protecting mutual interests in Southwest Asia. The Administration is seeking ways to increase the allies' participation in the region without detracting from the defense of Europe or East Asia.

Question. Do you endorse the proposal to change the DoD budget cycle to a 2-year process rather than

the current annual budget process to allow better oversight of defense spending? Why?

Answer. I do endorse a 2-year budget process. I believe that, while 2-year budgeting would require a great deal of work on the part of the Department, it could well have real benefits for both Congress and the Executive Branch. Such an approach could reduce significantly the demands which the DoD budget now imposes on the Congressional calendar. It may also improve the stability of our programs, particularly in the procurement appropriations. In addition, biennial budgeting would be consistent with the recent revision in the DoD Planning Programming Budgeting System (PPBS). We have decided to put the planning and programming phases of PPBS on a two year cycle. In general, I believe biennial budgeting would enable DoD to plan and budget more efficiently, just as it would permit the Congress to conduct more effective oversight of defense programs, so long as both branches of government could maintain these goals as their principal aims in biennial budgeting.

QUESTION : Do you endorse the proposal to reform the present structure of the Joint Chiefs of Staff and give the Chairman more independent authority? Why?

ANSWER: There are a number of such proposals which have been made over the last four years. The Joint Chiefs themselves examined these proposals and we concluded during the course of our examination that the duties laid out for the JCS in Section 141, Title 10, USC, are the right duties. We determined that the basic structure of the JCS to perform those duties is sound. This body of Chiefs is working hard to improve our own operation and significant progress has been made without recourse to legislative change. There were two changes to the law the JCS believed necessary: that the Chairman be placed in the chain of command and that some restrictions on personnel policies in the Joint Staff be removed. Given the continued support of the Secretary of Defense, the JCS believed we could continue to improve our own operation and we did not believe further changes to the law were necessary or desirable.

Question : Do you believe that the SDI offers the potential of an effective population defense? Is this one of the goals of the SDI program?

a. According to published reports, only 2.5% of the amounts appropriated for SDI in FY85 have been spent, compared to over 50% of FY85 Funds for all other R&D accounts. What accounts for this slower rate of expenditure?

b. What is the obligation rate of FY85 SDI funds compared to the obligation rate of all other R&D funds for FY85?

c. What do you project to be the first-year obligation and expenditure rates for the SDI funds requested in FY86?

Answer: SDI is a research program designed to pursue important new technologies that can be used to create a defense against

ballistic missiles which could strengthen deterrence and increase our security and that of our allies. As a broad research program, the SDI is not based on any single or preconceived notion of what an effective defense system would look like. Such a system would be designed to destroy weapons, not people. With such a system, we do not even raise the question of whether we are trying to defend missiles or cities. We would be trying to destroy ballistic missiles by non-nuclear means before the missiles get near any targets in this country or the territory of our allies. The choice is not between defending people or weapons. Even the early phases in deployment of missile defenses can protect people. Our goal is to destroy weapons that kill people. The possibilities for all aspects of defense are being examined; however, many questions must still be answered before conclusions can be made. The research of SDI is designed to allow a future President and Congress to decide whether to go ahead with such a system. The higher goal, of course, is increasing security of ourselves, our allies, and the survivability of humanity.

a. The CBO report cited was in error on the SDI resources expended in FY 1985. We have coordinated with CBO and they now accept the correct amounts for obligations and expenditures. The percentage comparison is also inappropriate. The normal R&D 50% expenditure rate is for the entire year. The incorrect 2.5% was for the first 3 months in which there is a normal 1-3 months lag between work accomplished and recording of expenditure.

b. The SDI obligation & expenditure rates are comparable to those of the service R&D accounts and better than comparable programs within R&D (see Attachment 1). SDI has experienced some abnormal delays by the accounting offices in recording all our expenditures. Being a new program, they have made some errors in recording our expenditures and in modifying their automated system to handle the new program. The delay is an accounting one, not one of program execution.

c. for FY86 we anticipate being 99% obligated and 60% expended by the end of the fiscal year.

SDI OBLIGATION/EXPENDITURE COMPARISONS*

	FY 1985 APPN	OBLIGATIONS			EXPENDITURES		
		MAR	APR	MAY	MAR	APR	MAY
TOTAL ARMY R&D	4.4B	53%	58%	63%	20%	26%	32%
TOTAL NAVY R&D	9.3B	69%	74%	80%	14%	19%	23%
TOTAL AIR FORCE R&D	13.5B	51%	57%	63%	20%	24%	30%
SDIO	1.4B	56%	62%	66%	9%	12%	16%
DARPA	.7B	44%	52%	61%	3%	5%	8%
AIR FORCE STRATEGIC R&D	5.5B	44%	51%	58%	10%	15%	19%

Question: Secretary Weinberger, you say in your statement that the success of our long-term program to maintain a credible deterrent in the future so that we may press ahead with verifiable arms reduction negotiations rest on our efforts to modernize all three legs of the strategic triad.

Since the MX is a part of this long-term effort, what effect will the reduction to the total program amount have on negotiations?

Answer: The MX is a vital part of our long-term program to maintain a credible deterrent so that we may press ahead with verifiable arms reduction negotiations. Indications that our efforts to modernize our strategic triad are faltering will encourage the Soviet Union to refrain from serious negotiations on strategic arms reductions.

SPECIAL OPERATIONS CAPABILITIES

QUESTION: Secretary Weinberger, revitalizing our Special Operations Forces remains to be one of our highest priorities. I want to commend you for your efforts in making significant progress towards achieving that goal.

I would like to clarify a statement made in your FY 1986 Annual Report to Congress. It says that when the Special Operations Forces revitalization program is completed, it will provide us a force fully capable of supporting U.S. National Security Interests worldwide. Would you explain what is exactly meant by this statement?

ANSWER: Our Special Operations Forces (SOF) revitalization goal has two key elements. The first is development of a fully capable force, reflecting our determination to overcome all the deficiencies that, in the past, have impaired the readiness of our SOF.

The second is development of a global capability. All military forces must be sized against some measurable set of criteria. Because SOF play an essential role in peacetime and at all levels of conflict, they must be prepared to operate in all regions of the world. Some elements of the SOF community--Special Forces and psychological operations, in particular--rely on language training and area specialization for success. As a result, they are not fungible among regions. A global capability requires a force structure of sufficient size to permit orientation of these units toward specific regions.

SUBCOMMITTEE RECESS

Senator STEVENS. Tomorrow we are going to receive testimony on Soviet strategic force development in a joint session with the Senate Armed Services Committee.

We stand in recess until 10 o'clock tomorrow morning.

Secretary WEINBERGER. Thank you very much, sir.

[Whereupon, at 12:40 p.m., Tuesday, June 25, the subcommittee was recessed to reconvene at 10 a.m., Wednesday, June 26, 1985.]

LIST OF WITNESSES, COMMUNICATIONS, AND PREPARED STATEMENTS

	Page
Cooper, Rear Adm. Daniel L., Director, Office of Budget and Reports and Director, Fiscal Management Division.....	161
Prepared statement.....	284
Davis, Maj. Gen. Harold M., Jr., Director of the Army Budget, Office of Comp- troller of the Army, Department of the Army.....	113
Gabriel, Gen. Charles A., Chief of Staff, U.S. Air Force.....	1
Joint prepared statement.....	6
Kelley, Gen. P.X., Commandant of the Marine Corps.....	161
Prepared statement.....	246
Lehman, Hon. John, Secretary of the Navy.....	161
Prepared statement.....	166
Marsh, Hon. John O., Jr., Secretary of the Army.....	65
Prepared statement.....	83
McCall, Maj. Gen. James J., Director of Army Budget, Office of the Comptroller of the Army, Department of the Army.....	65
Orr, Hon. Verne, Secretary of the Air Force.....	1
Joint prepared statement.....	6
Wade, Hon. James P., Acting Undersecretary of Defense for Research and En- gineering.....	395
Prepared statement.....	402
Watkins, Adm. James D., Chief of Naval Operations.....	161
Prepared statement.....	199
Weinberger, Hon. Caspar W., Secretary of Defense.....	521
Prepared statement.....	532
Wickham, Gen. John A., Jr., Chief of Staff, U.S. Army.....	65
Prepared statement.....	101

SUBJECT INDEX

FISCAL YEAR 1986 BUDGET REVIEW

	Page
Acquisition programs	527
Additional committee questions	41, 127, 351, 486
Allies, effect of zero growth budget on	523
AMRAAM Program	594
Armed Forces:	
People in	558
Tooth-to-tail ratio in	572
Armored vehicle production	523
Audits	529
Binary weapons:	
As deterrent to war	577
System munitions	577
Budget:	
Adjustments	522
Administration adjustment to changes	522
Areas of distribution	556
Growth line in percent	584
Change of station policy, review	594
Chemical retaliatory capability	557
Combat capability, improvement in	557
Combat ration, support of	573
Competition	528
Current force, increased combat capability out of	574
Deep strike warfare doctrine, Europe	584
Defense:	
Contracts	580, 589
Hotline	529
Unobligated balance in budget	578
DIVAD alternatives	595
Department of Defense:	
Advances and improvements by	530
Employment reporting by former employees	601
Economic production rates	528
Force structure, increases in	573
Foreign firms, bidding on SDI by	601
Funds, unexpended backlog of	568
Inflation:	
Adjustments	526
Savings	526
Interdiction activities	582
Joint Chiefs of Staff: Statement of Gen. John Vessey, Jr.	556
Joint Requirements Management Board	586
Light infantry division	566
Mobility of	567
Maintenance backlog	525

	Page
Major weapons systems, cost growth reduction in.....	527
Midgetman missile.....	566
Acceleration of.....	580
Military compensation system.....	576
Military retirement.....	575
Modern warfare, change in.....	582
Modified point programs.....	588
MX missile.....	557
Cap on.....	565
New Jersey, command problems on.....	581
Nuclear terrorism, threat of.....	602
Outlay estimates.....	569
Pay adjustments.....	527
Personnel:	
Improvements.....	556
Pay costs.....	526
Reduction.....	571
Point defense.....	587
Procurement.....	573
Blue ribbon commission on.....	571
Multiyear programs.....	528
Questions submitted by committee members:	
Senators:	
Andrews.....	146
Byrd.....	59, 155, 379, 516
Cochran.....	370
Hollings.....	378
Inouye.....	377
Kasten.....	54, 146, 366
McClure.....	144, 365, 512
Proxmire.....	374
Sasser.....	381
Siennis.....	57, 151, 370
Weicker.....	509
Readiness, maintaining.....	574
Reorganization proposals.....	577
Salt II Treaty, Soviet violations of.....	600
Strategic Defense Initiative:	
Cuts in funds.....	526
Offensive capabilities of.....	599
Program.....	586
Reasons for research.....	564
Research shared with Soviets.....	598
Special pay and entitlements.....	592
Spending outlays.....	568
Stealth bomber, IOC schedule on.....	581
Strategic Defense Initiative.....	564
Strategic Modernization Program.....	557
Strategic nuclear arms system, Soviet development of.....	524
Submitted questions.....	604, 605, 608, 610, 611, 616
Terrorism, actions to counter.....	602
Threat briefing.....	569
Triad, modernization of.....	523
Trident II D-5 missile.....	580
U.S. accomplishments since 1981.....	525
Various services, budget of the.....	585
Waste, fraud, and abuse.....	578

OVERVIEW OF AIR FORCE BUDGET REQUEST

	Page
Air Force:	
Base realignment plan	58
Budget authority, comparative statement of	1
People	15
Systems command	24
Airlift status	13
AMRAAM Development Program:	
Funding requirement for	28
Stretchout of	51
Appropriations Committee comparative statement of budget authority	2
ASAT Program:	
Increase in costs	54
Space shots for	53
ATB Program	27
Audit staffs	38
B-1 and Stealth, combining	28
B-1 Bomber Program:	
Combining Stealth	28
Cost of contract slippage	28
Extension of	27
B-1B and ATB programs, overlap of the	57
B-1B production lines:	
Disbanding of the	55
Extending	56
Basic personnel reform, need for	25
Benefit programs, improvements in	49
Bigeye Program	53
Bonuses and military pay, reexamination of	25
Budget authority and outlays:	
By account	3
Comparative statement of	2
Budget freeze, impact of	41
C-5 aircraft negotiations, savings in	29
C-5B/C-17, maintenance man-hours	52
Career personnel, pay for	26
Charleston and Martinsburg, WV, ANG base facilities at	59
Cheap, simple, and mass produced weapons	54
Chemical weapons	13
Inventory of	53
Civilians, difficulty in hiring 10,000 more	49
Combat readiness	11
Commands, overmanagement of	24
Commissaries:	
Contracting out operations of certain	50
Scale back on	50
Competitive contracts, cost reductions by	32
Current force level, fighter production to sustain	44
Destroyed records	19
Direct support personnel	34
Europe:	
Force expansion in	47
GLCM deployment in	17
Growth of U.S. troops in	46
Limitation on manpower in	16
Manpower needs in	46
F-16:	
Contract	29
Contract target price	32

F-16—Continued	Page
Cost of.....	30
Fighter.....	52
Fighter production leveled off at current rate.....	43
Fiscal year 1985 funds, impact if not released.....	45
Five percent civilian pay cut/three percent military increase.....	49
Flying time.....	12
GLCM, administrative support for.....	17
Improved capability.....	12
Incentive share line versus firm fixed price.....	31
Joint service programs, status of.....	14
LANTIRN Program, cancellation of.....	59
Land Use Master Development Plan.....	62
Manpower positions, need for more in fiscal year 1986.....	47
Measures, tightening of.....	11
Military pay raise, affect on progress if not approved.....	49
Military personnel and their concerns.....	3
Military retirement, modification to.....	51
Modernization programs, support of.....	34
MX Peacekeeper missile:	
And chemical weapons.....	13
Affect of a negative vote in Congress on.....	46
Effective execution of 1986 buy of.....	44
Production timetable and target for IOC.....	45
NATO:	
Manpower.....	16
Support in AF budget.....	18
New systems, supportability of.....	13
Overspecification problem.....	5
Personnel:	
Decreases.....	42
In direct combat and support roles.....	33
Plans in limiting expanding numbers of.....	16
Programs, success in.....	3
Pilot training.....	12
Pilots, air crew incentive pay for.....	26
Private sector, fairness standards from.....	33
Procurement contract savings.....	57
Production rates, leveling off of.....	43
Programs and planning, affect of manpower levels on.....	41
Readiness.....	12
Readiness and modernization, balance between.....	11
Recurring unit flyaway cost.....	30
Reenlistment bonuses.....	26
Reliability and maintainability.....	4
Rent Plus Program.....	18
Adjustments in.....	20
Senator Rudman:	
Services response to plan.....	38
Proposal of.....	21
Senator Stevens, opening statement of.....	1
Shares Program.....	19
Skewing rent data.....	19
Space Shuttle military payloads.....	54
Space, additional testing in.....	53
Spare parts.....	4
Sparrow missile, upgrading of the.....	52
Strategic Bomber Modernization Program, competition within the.....	56

	Page
Submitted questions.....	40, 54, 57, 59
Support crews.....	34
Support staff, redundancy in.....	35
Three-Year budget.....	39
Two force level objectives, importance of the.....	44
West Virginia, construction plans for.....	62

OVERVIEW OF ARMY BUDGET REQUEST

Acquisition management.....	82
AirLand battle.....	77
Antiaarmor weapons.....	124
Master plan.....	125
Army programs, factors driving.....	67
Army, missions for the.....	123
Bradley: Production.....	119
Budget:	
Army.....	76
Authority: Comparative statement of.....	65
Comparisons.....	65
Freeze: Effects of.....	108
Outlays: Rudman proposal.....	112
Outlays.....	65
Chemical warfare.....	81, 118
Chemical: Binary capability.....	98
Civilian manpower, USAREUR.....	109
Conflict, spectrum of.....	71
DIVAD.....	103
DOD, civilian force in.....	113
End strength:	
Capping.....	73
Constant.....	93
Equipment: Major end items.....	96
Europe, civilian components in.....	110
Family: Army family programs.....	90
Fast deployment divisions.....	95
Force structure.....	94
General Wickham:	
Prepared statement.....	101
Presentation.....	87
Guard and Reserve readiness.....	92
Indiscipline, indices of.....	75
Jointness.....	99
Land power.....	87
Light helicopter experimental.....	121
Light infantry division.....	79, 114
Airlift for.....	117
M1 production.....	120
NATO:	
Spending.....	108
Support.....	110
Personnel quality.....	74
Readiness.....	89
And sustainability.....	97
Guard and Reserve.....	116
Real growth, Army.....	88
Reserve component:	
End strength ramp.....	73
Military technician quality.....	91

	Page
Reserve component—Continued	
Of Army budget	76
Growth in military technicians	110
Reserve: Guard and Reserve readiness	92
Rudman proposal	112
Secretary Marsh:	
Prepared statement	83
Presentation	67
Simulation	117
Soviet:	
Expansionism	70
Tactics (versus AirLand battle)	78
Special operations forces	80
Stewardship	98
Submitted questions	126, 144, 146, 151, 155
Sustainability	97
Tactics, U.S.	79
Threat	69
Training	97
USAREUR:	
Civilian components in Europe	110
Civilian manpower	109

OVERVIEW OF NAVY AND MARINE CORPS BUDGET REQUEST

Additional comparative statement	163
AEGIS cruiser	391
Aircraft production	164
All services, implied warranties in	333
Arms agreement, possibility of	315
Attack submarine	352
Aviation officer continuation pay [AOCP]	357
BIGEYE chemical weapons	354
Budget authority, comparative statement of	162
Buy America concept, contracts under	321
Captor	374
Carrier battle groups	351
Civilian employment	340
Claims	339
Accumulations of	317
COCOM, success with	325
Commerce Department, problems in	325
Competition	366
Construction variations	319
Consultants and contractor support services	365
D-5:	
Deployment schedule for	343
Land-based	344
R&D on	345
DDG-51 award issues	370
Department of the Navy real growth	162
Draft, return to	339
E-6A	351
Electric Boat:	
Contracts	374
Situation with	345
Five-year construction plan	379
Fixed price contracts	357
Freedom of Information Act	325

	Page
Harm antiradiation missile	364
Hawaii, home porting in	333
Installation closing	347
Joint Chiefs of Staff reform	385
M-1 tank	390
Marine RPV's	390
Maritime prepositioning ships [MPS]	369
Medical readiness	359
Military compensation	361
Mine Countermeasures Ship Program	368
Minesweeper Hunter Ship Program	368
Missile-carrying submarines, identification of	326
Missiles, land-sea environment for	344
Morale, welfare, and recreation	359
Naval:	
Cost of maintaining commitments	323
Tonnage comparison	327
Navy:	
Administration	382
Civilian teams in programs	332
Goals on line	164
1985 budget request	378
Oceanography Program	372
Overview of budget	163
Procurement Program	318
New design submarine	353
New Jersey	389
Officer:	
Bloat	386
Retention	336
Personnel	329
Philadelphia Navy Yard:	
Reduction in personnel at	348
Work of	347
Phoenix	363
Pilot:	
Loss	387
Reenlistments	335
Poseidon submarine:	
Deactivation	365
Dismantling of	322
Procurement request, reduction in	346
Proposed cuts, counterproductiveness of	164
Readiness and sustainability	163
Readiness, effect of budget cuts on	328
Reenlistment bonuses	336
Rent plus	360
SDI Program budget	326
Ship operations	381
Shipbuilding:	
Mobilization base	367
Overall request	372
Overhauls	316
Request	338
Trends in growth	338
Shipyard production	164
Soviet chain of command	342

	Page
Steaming time comparisons	328
Strategic Defense Initiative	384
Submitted questions	351, 365, 366, 370, 374, 377, 378, 379, 381
Technology transfer	324
Tomahawk deployment	365
Trident II missile	356
D-5 missile accelerated deployment	366
Production	326
United States:	
Combat readiness of ships	331
Competition from shipbuilders	321
Navy comparison with U.S.S.R.	335
Ocean safety factor for submarines	323
Soviet theft of technology	324
United States/Soviet:	
Fleet sustainability	327
Naval comparisons	327
Unobligated balances, statement of	162
Warranties	333
West coast shipbuilding capabilities, maintaining	320
West Virginia, DOD presence in	380

OVERVIEW OF RESEARCH, DEVELOPMENT, AND ACQUISITION ACTIVITIES

A-6F upgrade	497
Acquisition balance-military equipment and technology	409
Acquisition management	419
Advanced tactical fighter [ATF]	498
Advanced technology, increase in	472
All services, duplicate offices among	471
Allies and government, cooperation with	399
Aquila System	471
Basic technologies, U.S. superiority in	461
Basing:	
Competition between options	499
Most promising concept	499
Budget request	395
C3 for SICBM off base	500
Cancelled, cutback, and stretched programs	462
Challenges and opportunities	446
Chemical warfare deterrence	445
Classified programs	489
Command, control, communications and intelligence C31	447
Comparative summary	397
Table	396
Contracting, multiyear	512
Conventional:	
Initiatives	400, 443
Munitions	444
Cruise missiles	476
DDG51 (guided missile destroyer), R&D status of	513
Declining technology base	493
Defense Acquisition Improvement Program	419
Defense R&D budget, growth of	473
Defensewide initiatives	447
Deployed military systems	461
Existing systems, extending the life of	508
Existing systems, missions performed by other	498

	Page
F-20 Tigershark	465
FDT&E Program, fiscal 1986	398
Fractional orbital bombardment system	464
FSED candidates, procurement strategy for	502
Heavy lift research vehicle	495
Helicopter research	474
High technology programs (VHSIC and supercomputers)	500, 508
ICBM silos superhardening R&D program	483
Industrial responsiveness	425
Infantry combat vehicles	465
Intelligence and fire control	400
Intercontinental attack	429
International armaments cooperation	401, 455
International cooperation and technology control	407
Introduction and overview	402
Joint programs	400
Management	421
Joint service programs	489
JVS:	
And LHX programs	509
Development Program	477
JVX and LHX programs	496
Problems	479
Land warfare	442
Laws and regulations, recent changes to	502
LHX (light helicopter family)	497
LHX/JVX comparison	477
Long-range force projection	435
M1-E1 tank	466
Magnethydrodynamic power generation	464
Manpower, prioritization of	480, 481
Manufacturing technology R&D funding	504
Midgetman missile	484
Military:	
Comparison of systems	462
Output of acquisition	413
Projected shortages in manpower	513, 516, 518
MK and SDI, cutbacks in missiles program to pay for	478
Mobile subscriber equipment [MSE]	514
Mobility	444
Modernization:	
Challenge	403
Quality of effort	398
U.S. improvement of programs	460
MX's in silos, deployment of	484
Naval warfare	440
NPR, long-range planning impact on	515
Nuclear:	
Nonstrategic forces	435
Weapons	436
Organization and management	405
Priority items	481
Product improvement, preplanned	507
Public relations cost	490
R&D:	
Accelerated growth of budget	513
Government-sponsored	482
Impact of a no real growth freeze on	487

	Page
Radar:	
Military effectiveness	510
Vulnerability	510
RD&A Program, fiscal year 1986	402
RDT&E:	
Growth in civilian employees	498
Quality and execution of	398
Real growth	486
Readiness	398
Research:	
Development, and acquisition	498
Engineering reorganization	490
Exploratory development programs	493
Increase in programs	476
Science and Technology Program	399, 451
SDI:	
Budget comparison	466
Chart on past elements	474
Increased funding for research	461
Program	478, 481
Spacelaser budget comparisons	466
Senator Stevens, opening statement of	395
SLBM missile systems	475
Small ICBM costs	499
Soviet:	
ABM X-3	462
Cost of defense of ATB	479
Danger of U.S. concession of lead to	466
Defense spending	460
Improvement in missile capability	459
Modification of weapons system	460
Radar technology	510
Radar utility	510
Superiority of conventional war mobilization	470
Technology advancements	462
Weaknesses	459
Weapons acquisition (R&D procurement) process	409
Space	449
Spare parts procurement reform	423
Special operations	444
Star Wars percentage of research budget	462
Strategic and theater nuclear forces	429
Strategic Defense Initiative	464
Strategic:	
Defensive forces	433
Nuclear arsenal	400
Nuclear deterrent	467
Program goals/objectives	429
Submitted questions	486, 509, 512, 516
Tactical:	
Air warfare	438
Program growth	489
Warfare goals/objectives	438
Warfare programs	438
Technology:	
Comparisons	411
Transfer and export control	457
Test and evaluation	453

Trident II SLBM	Page 467
U.S. industrial:	
Changes in capability	468
Status of mobilization	468
United States/Soviet real growth in R&D	488
University basic research, new initiatives for	492, 516
USDR&E position	492
Weapon support and readiness improvements	424
Weapons systems, goldplating on	472